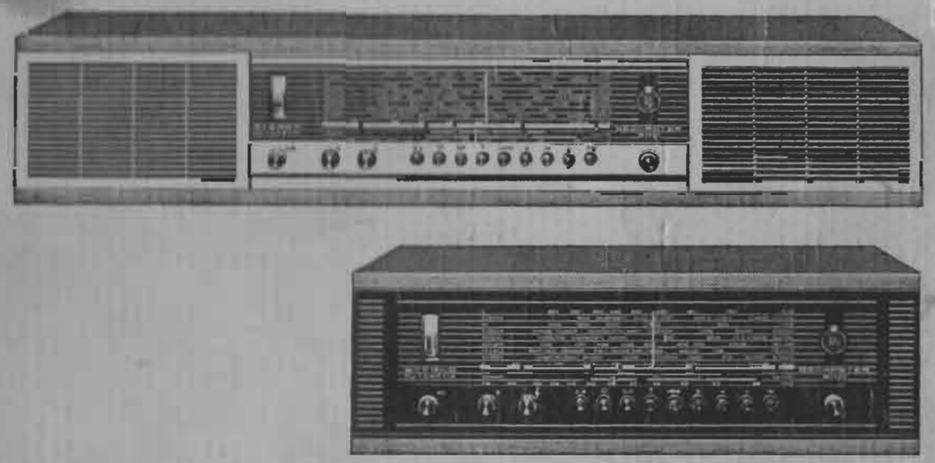
Ryland Huntley
15 OLD BOND STREET, BATH. Tel. 4332
RADIO & TELEVISION

beomaster 900
k, m, and rg

SERVICE MANUAL



PRINTED IN DENMARK
EKSPRES-TRYKKERIET, STRUER

A/S BANG & OLUFSEN PRODUKTIONSSELSKAB
STRUER - DENMARK Telephone (076) 81122* - Telex 4289 - Cable Address Bangoluf

TECHNICAL DATA

AM aerial: Ferrite aerial for LW, MW, FW; push-button switching to external aerial.
Channel separation: Better than 28 dB.
Dimensions, Model K: 29 1/4 in. wide, 5 9/16 in. high, 9 in. deep (744 × 142 × 229 mm).
Dimensions, Model M: 17 in. wide, 5 9/16 in. high, 9 in. deep (432 × 142 × 229 mm).
External-speaker impedance: 3-5Ω, switching provided in connector sockets. DIN sockets for two side speakers and one additional speaker on left channel.
FM aerial: Built-in FM aerial, and telescopic dipole.
FM: Tuner with automatic frequency control (AFC).
Frequency range: 30-15000 c/s at ± 3 dB (bass and treble controls at mid-scale).
Gramophone connection: B&O stereo player G 42 VF or crystal pick-up Sensitivity: 180 mV at max. output.
Hum with volume control at minimum: under 4 microwatts.
Oscillator radiation: Suppressed in conformity with present German standards.
Power consumption: 10 watts at 100 mW output. Max. output approx. 65 watts.
Power output: 2 × 6 watts.
Stereo indicator: Green light for stereo gramophone, stereo reproduction from tape, and with stereo decoder installed.
Supply voltage: 220 volts AC (for operation on 110 and 240 volts, see page 6).
Tuning indicator: Pointer instrument.
Tape recorder connection: 5-contact DIN socket for monaural and stereo tape recorders. Playback through separate push-button.
Wave bands, receivers with serial numbers under S.263:

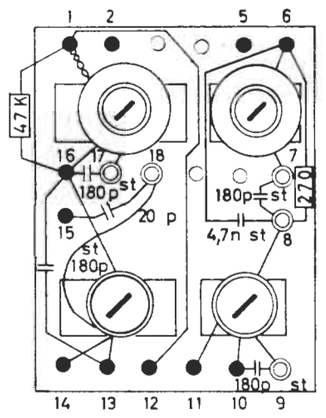
LW	2040 - 940 m,	147 - 320	kc/s
MW	578 - 188 -	520 - 1600	-
FW	194 - 75 -	1550 - 4000	-
FM	3.4 - 2.8 -	88 - 108	Mc/s

Receivers numbered S.263 and higher:

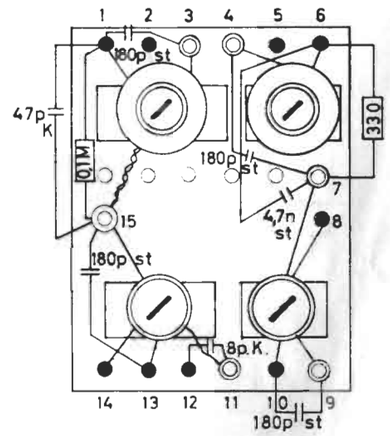
LW	2040 - 857 m,	147 - 350	kc/s

Other bands identical.

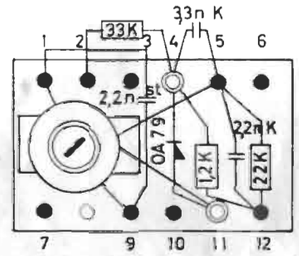
WIRING DIAGRAM FOR FF TRANSFORMERS



1'MF 971H206
1'IF

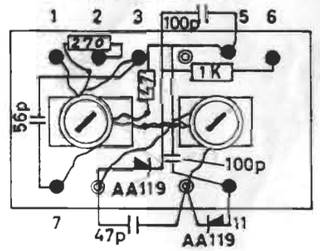


2'MF 971H207
2'IF



AM Det. 971H209

FM Det. 971H225

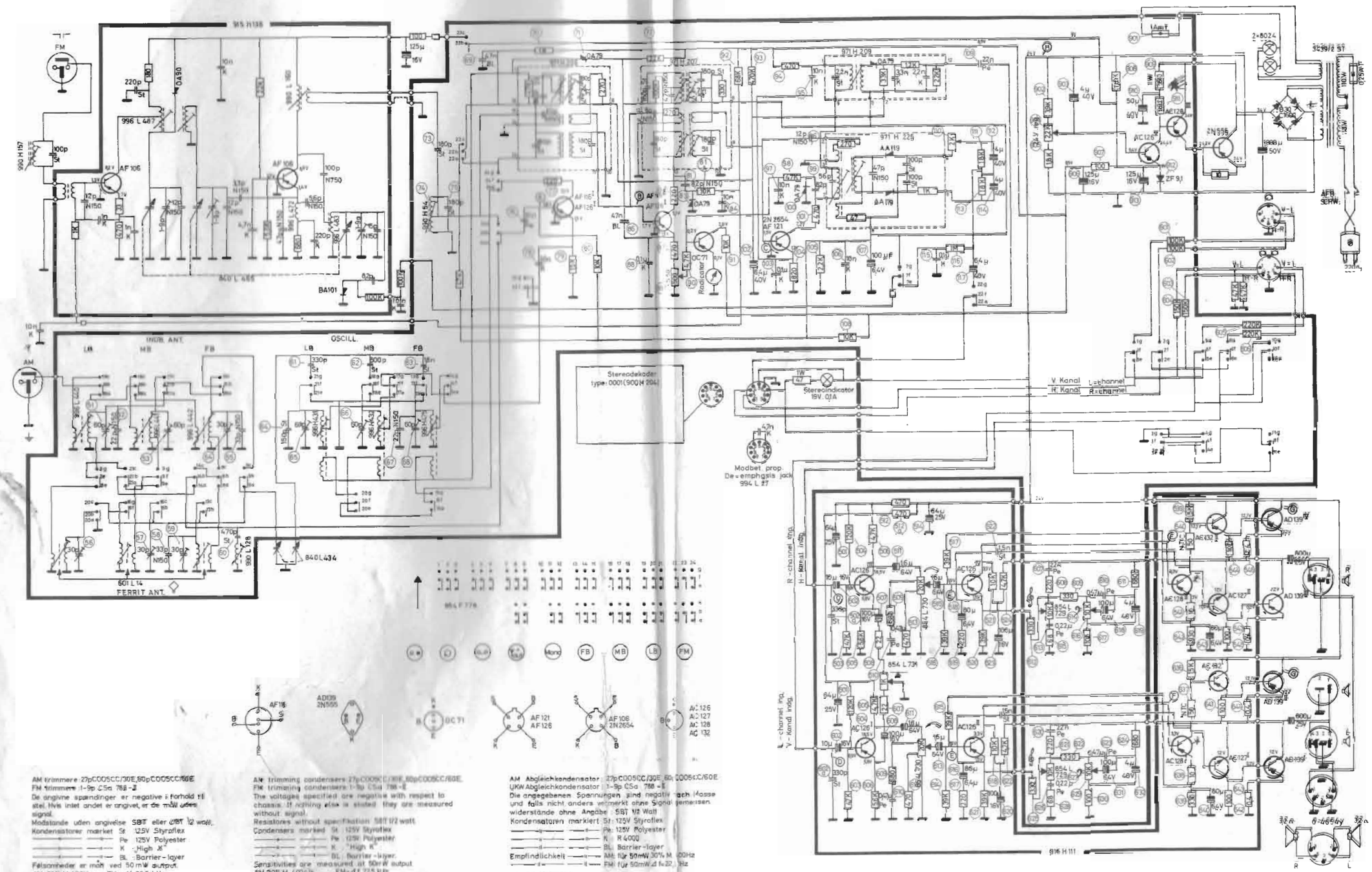


680F640

CIRCUIT DIAGRAM OF BEOMASTER 900

Remove 903
Pt 0.1µF from B & C
of AC126 (in power supply)

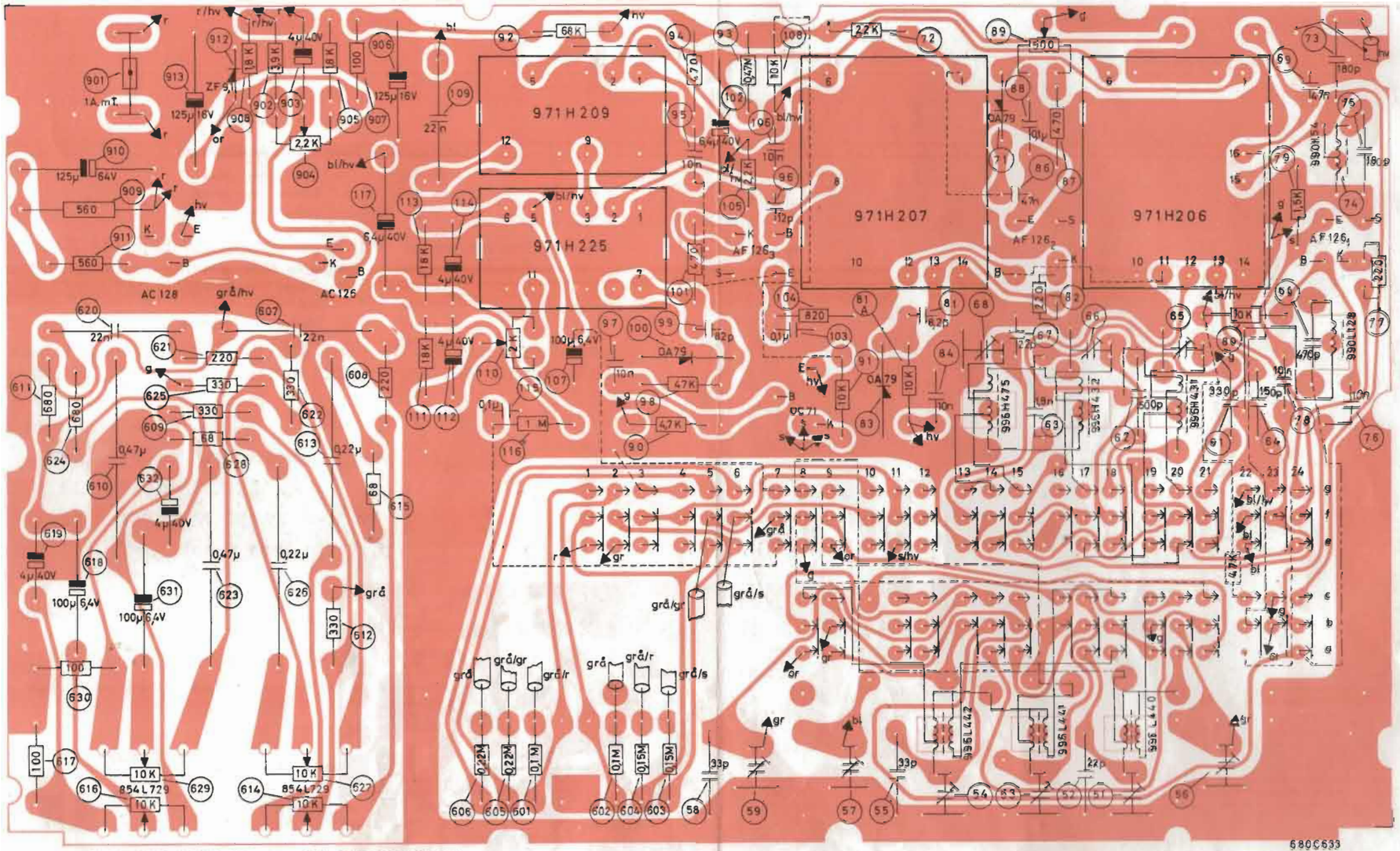
* change to AC153 to reduce "buzz" DRIVER



AM trimmere 27pC005CC/30E, 80pC005CC/60E
FM trimmere 1-9p C5a 788-2
De angivne spændinger er negative i forhold til stel, hvis intet andet er angivet, er de målt uden signal.
Modstande uden angivelse SBT eller ØBT ½ watt.
Kondensatorer mærket St : 125V Styroflex
Pe : 125V Polyester
K : "High K"
BL : Barrier-layer
Følsomheder er målt ved 50 mW output.
AM 30% M. 400Hz FM - Δf 22,5 kHz
A: 1µV (444 kHz)
0,8µV (1m Hz.)
25 µV (10,7 mHz)
B: 7 µV (444 kHz)
250µV (10,7 mHz)
C: 230µV (444 kHz)
15,5mV (10,7m Hz)
D: 4,0mV 400 Hz gennem 0,1 µF
E: 30mV 400 Hz
F: 160mV 400 Hz
G: 10mA–100mA (tomgang)
H: 150 mA–180mA

AM trimming condensers 27pC005CC/30E, 80pC005CC/60E
FM trimming condensers 1-9p C5a 788-2
The voltages specified are negative with respect to chassis. If nothing else is stated they are measured without signal.
Resistores without specification SBT 1/2 watt
Condensers marked St : 125V Styroflex
Pe : 125V Polyester
K : "High K"
BL : Barrier-layer.
Sensitivities are measured at 50mW output
AM 30% M. 400c/s FM-Δf 22,5 kHz
A: 1µV (444kc/s)
0,8µV (1mc/s)
25µV (10,7mc/s)
B: 7µV (444kc/s)
250µV (10,7mc/s)
C: 230µV (444 kc/s)
15mV (10,7mc/s)
D: 40mV 400c/s through 0,1µF
E: 30mV 400c/s
F: 160mV 400c/s
G: 10mA–100mA (No signal)
H: 150mA–180mA

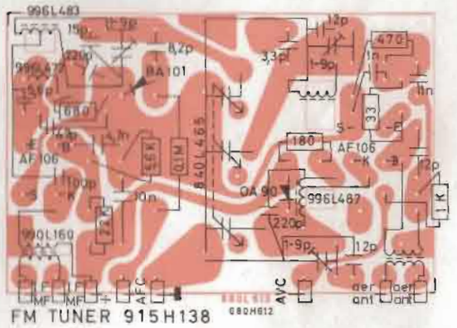
AM Abgleichkondensator: 27pC005CC/30E, 80pC005CC/60E
UKW Abgleichkondensator 1-9p C5a 788-2
Die angegebenen Spannungen sind negativ nach Masse und falls nicht anders vermerkt ohne Signal gemessen.
widerstände ohne Angabe SBT 1/2 Watt
Kondensatoren markiert St: 125V Styroflex
Pe: 125V Polyester
K: R 4000
BL: Barrier-layer
Empfindlichkeit AM: für 50mW 30% M. 400Hz
FM: für 50mW Δ f=22,5 kHz
A: 1µV (444kHz)
0,8µV (1mHz)
25µV (10,7 mHz)
B: 7µV (444 kHz)
250µV (10,7m Hz)
C: 230µV (444 kHz)
15,5mV (10,7 mHz)
D: 40mV 400 Hz durch 0,1µF
E: 30mV 400 Hz
F: 160mV 400 Hz
G: 10mA – 100 mA (ohne signal)
H: 150mA – 180mA



PW ENHED 915H146 PW BOARD 915H146

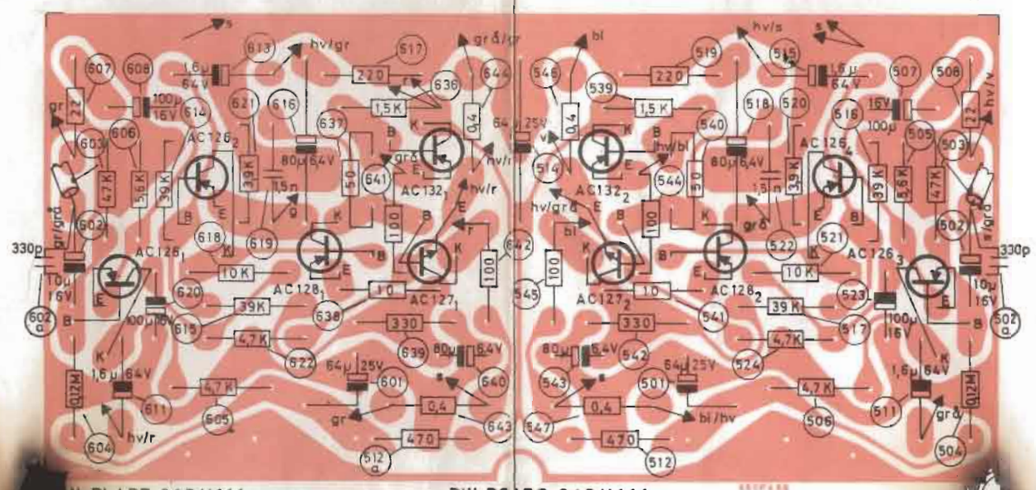
Ledningsfarver — Colour of wires — Kabelfarben

bl: blå	—	blue	— blau
br: brun	—	brown	— braun
g: gul	—	yellow	— gelb
gr: grøn	—	green	— grün
grå: grå	—	grey	— grau
hv: hvid	—	white	— weiss
or: orange	—	orange	— orange
r: rød	—	red	— rot
s: sort	—	black	— schwarz
v: violet	—	violet	— violett



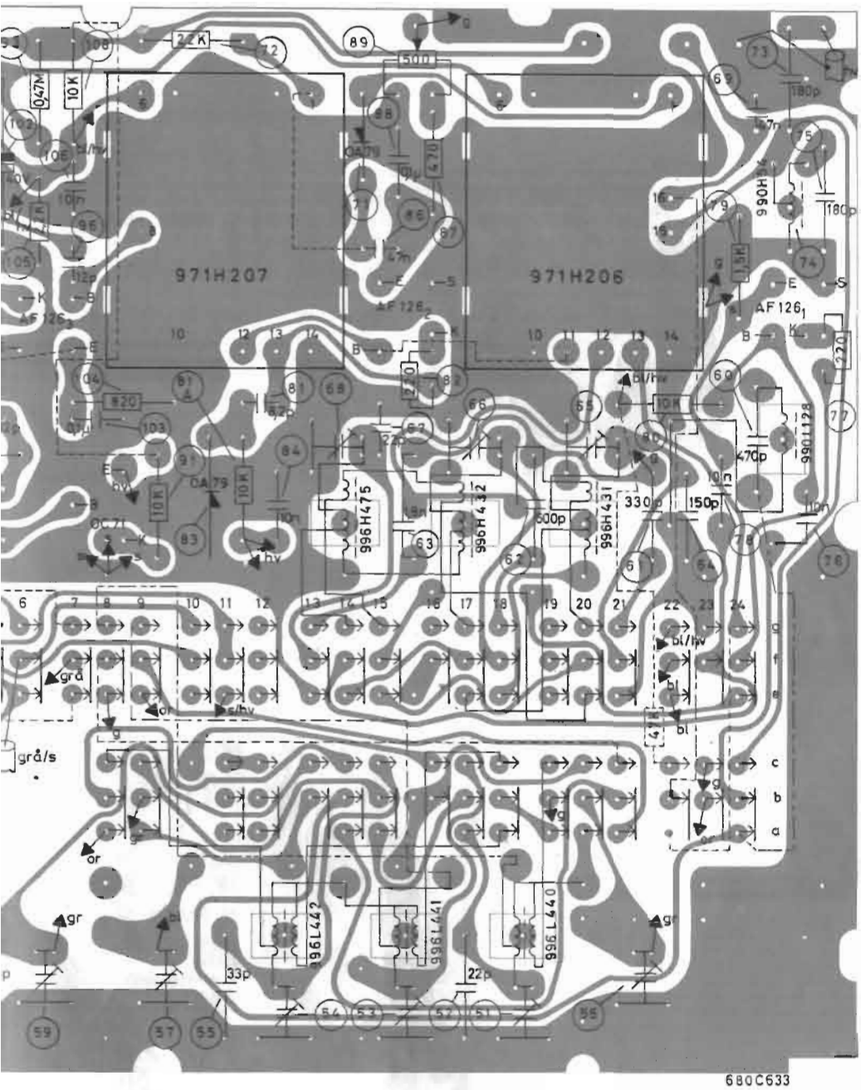
FM TUNER 915H138

Ledningsfarver — Colour of wires — Kabelfarben			
bl: blå	—	blue	— blau
br: brun	—	brown	— braun
g: gul	—	yellow	— gelb
gr: grøn	—	green	— grün
grå: grå	—	grey	— grau
hv: hvid	—	white	— weiss
or: orange	—	orange	— orange
r: rød	—	red	— rot
s: sort	—	black	— schwarz
v: violet	—	violet	— violett



W PLADE 915H111

PW BOARD 915H111



wires — Kabelfarben

c	—	blau
own	—	braun
low	—	gelb
en	—	grün
y	—	grau
ite	—	weiss
nge	—	orange
	—	rot
ck	—	schwarz
let	—	violett

Modification, LW Band.

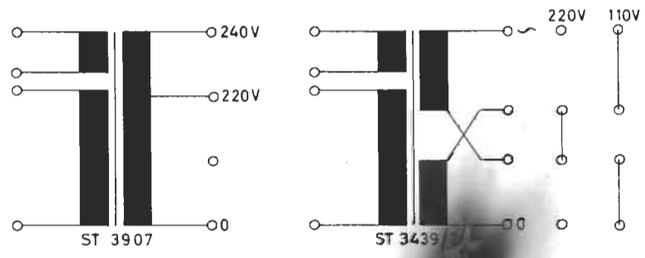
Receivers numbered S.263 and higher have an LW band covering 147-350 kc/s. They correspond to the circuit diagram on page 3.
Dial glass: Type 760 F 485.

Receivers with serial numbers under S.263 have an LW band covering 147-320 kc/s, and the following components differ from the circuit diagram:

Diagram no.	52	47 pF N 150.
-	- 56	60 pF trimmer capacitor.
-	- 61	270 pF St. 125 V.
-	- 64	180 pF St. 125 V.
Dial glass:		Type 760 F 484.

Power transformer:

Standard version	220 - 240 V.	ST. 3907.
Special version	110 - 220 V.	ST. 3439/2.



PARTS LIST, BEOMASTER 900 K and M.

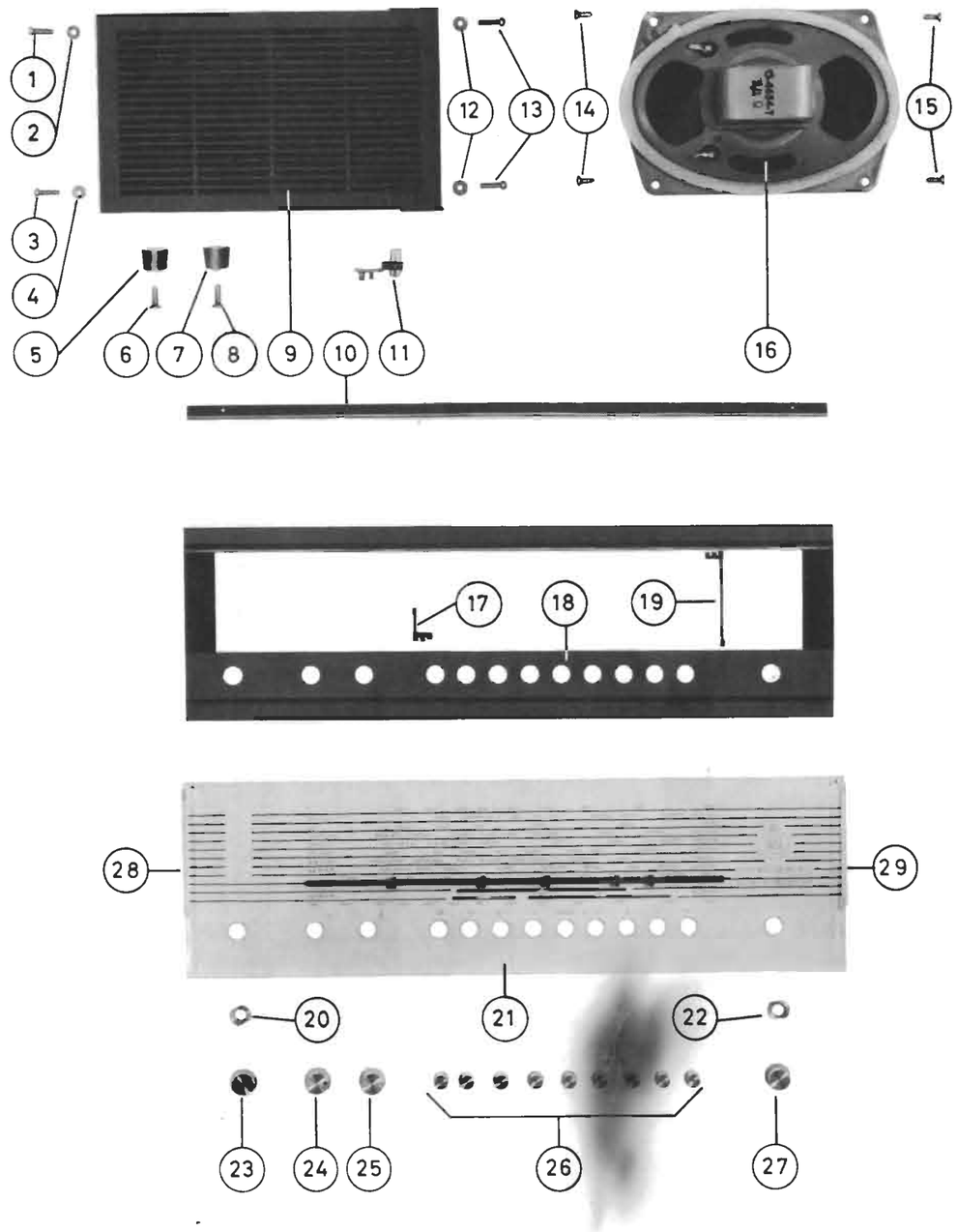
1	Screw	AM 3 × 12 DIN 84
2	Washer	3ø × 8ø × 0.5
3	Screw	AM 3 × 12 DIN 84
4	Washer	3ø × 8ø × 0.5
*5	Slide shoe	585 L 27
6	Screw	3 × 12 DIN 7997
7	Slide shoe	585 L 27
8	Screw	3 × 13 DIN 7997
*9	Speaker grille, Model K	536 F 89
	Cover plate, Model M	521 L 144
10	Angle, Model K	248 F 920
	Angle, Model M	245 F 583
11	Plug	No. S 5 mZ
12	Washers	3ø × 8ø × 0.5
13	Screws	AM 3 × 8 DIN 84
14	Screws	3 × 10 DIN 7997
15	Screws	3 × 10 DIN 7997
*16	Speaker	0-4654 Y (3.2 Ω)
17	Dial pointer, FM	760 L 462
18	Dial cover plate, Model K	566 H 120
	Dial cover plate, Model M	566 H 138
19	Dial pointer, AM	760 L 461
20	Bushing	415 L 76
*21	Dial with slide rail and markers, Models K and M, Serial No. 263 and higher	760 F 485
	Dial, under Serial No. 263	760 F 484
22	Bushing	415 L 76
*23	Knob, volume	928 L 134
*24	Knob, bass	928 L 104
25	Knob, treble	928 L 104
*26	Buttons for push-button switch	760 L 488
*27	Knob, tuning	322 L 159
*28	Mirror for dial	537 L 249
29	Mirror for dial	537 L 249
	Bushings for mounting chassis	415 L 94
	Rockwool	75 mm (12.5 × 16 cm)

see photo on page 10

*37	Radicator	858 H 46
38	Dial rear plate	248 C 966
39	Angle	248 H 862
40	Dial lamp holder	3565
*41	Dial lamp	8024
*42	Cord pulley	10343/05
*43	Screws	BZ 2.9 × 9.5 DIN 7981
44	Nut	149 L 13
45	Screw	BZ 2.9 × 9.5 DIN 7981
*46	Dial cord	E 4

PARTS marked with an * are preferred spare parts.

Parts List to be Continued on Page 9.

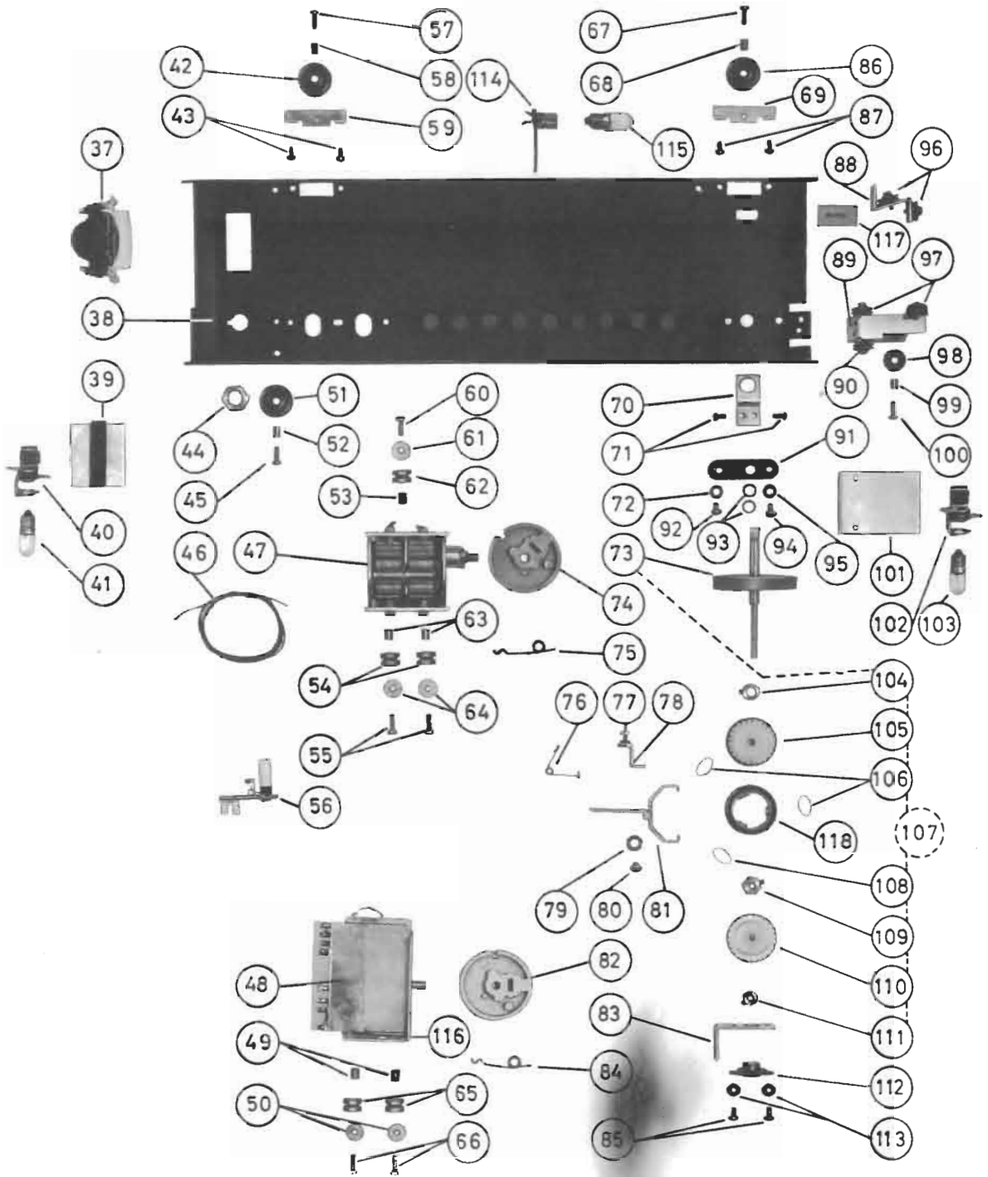


Parts List Continued from Page 7.

*47	Tuning capacitor	840 L 434
*48	FM tuner, complete	915 H 138
49	Bushings	410 L 273
50	Washers	286 L 185
51	Cord pulley	10343/05
*52	Bushing	410 L 165
53	Bushing	410 L 273
*54	Rubber bushings	411 L 36
55	Screws	AM 3 × 10 DIN 84
56	Series trap, 10.7 Mc/s	990 H 157
57	Screw	BZ 2.9 × 9.5 DIN 7981
58	Bushing	410 L 165
59	Bracket	245 L 520
60	Screw	AM 3 × 10 DIN 84
61	Washer	286 L 185
62	Rubber bushing	411 L 36
63	Bushings	410 L 273
64	Washers	286 L 185
65	Rubber bushings	411 L 36
66	Screws	AM 3 × 10 DIN 84
67	Screw	BZ 2.9 × 6.5 DIN 7981
68	Bushing	410 L 165
69	Bracket	245 L 520
70	Bracket	248 L 889
71	Screws	BZ 2.9 × 6.5 DIN 7981
72	Washers	4ø × 8ø × 1
73	Flywheel with shaft	760 L 434
*74	Cord wheel, AM	312 H 49
*75	Spring	335 L 148
76	Spring	335 L 148
77	Screw	AM 3 × 8 DIN 84
78	Bracket	248 L 887
79	Lock washer	286 L 200
80	Screw	106 L 91
81	Duplex lever	387 H 310
*82	Cord wheel, FM	312 H 74
83	Bracket	245 L 516
84	Spring	335 L 148
85	Screws	BZ 2.9 × 6.5 DIN 7981
86	Cord pulley	10343/05
87	Screws	BZ 2.9 × 6.5 DIN 7981
88	Bracket	249 L 240
89	Bracket	249 L 241
90	Cord Pulley	10163/06
91	Insulating piece, bearing	530 L 453
92	Screw	BZ 2.9 × 6.5 DIN 7981
93	Washers	286 L 118
94	Screw	BZ 2.9 × 6.5 DIN 7981
95	Washer	4ø × 8ø × 1
*96	Cord pulleys	10163/06
97	Cord pulleys	10163/06
98	Cord pulley	10163/06
99	Bushing	410 L 165

PARTS marked with án * are preferred spare parts.

Parts List to be Continued on page 11.

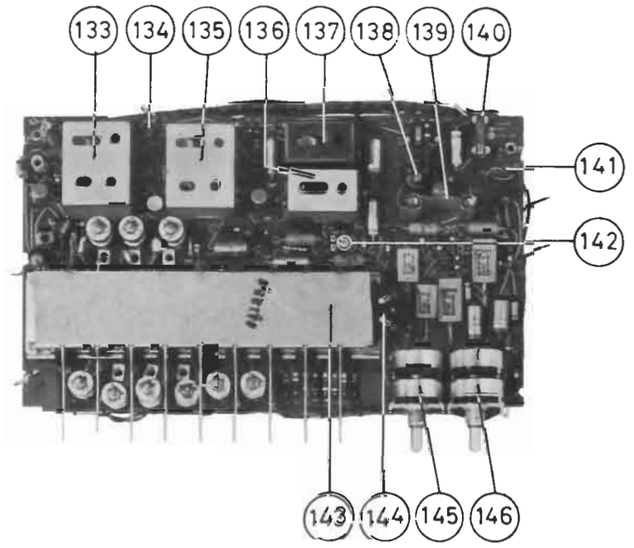


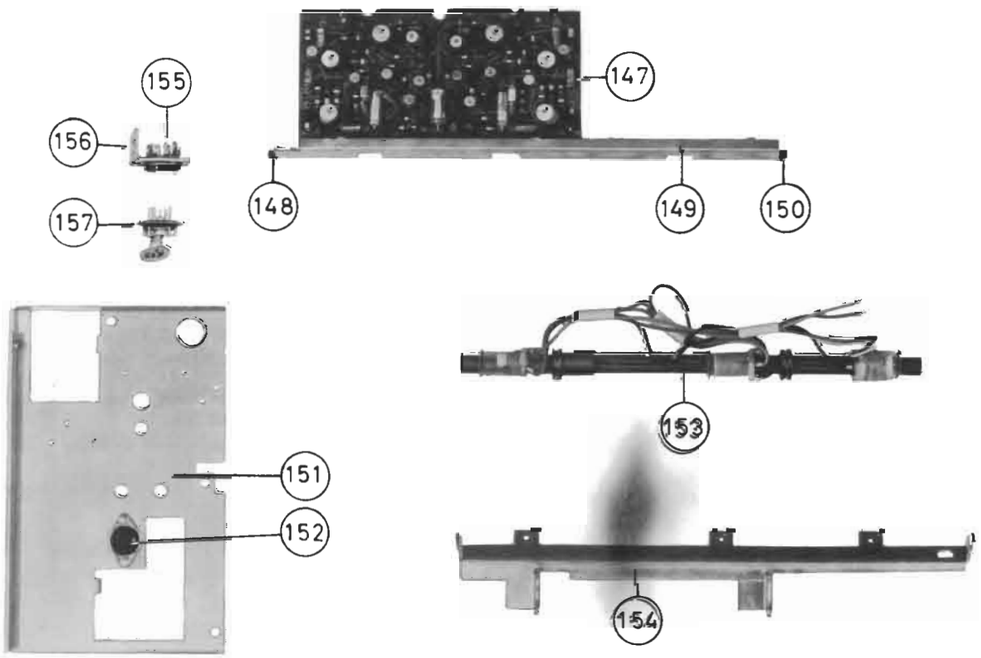
Parts List Continued from Page 9.

100	Screw	BZ 2.9 × 6.5 DIN 7981
101	Bracket	248 H 886
102	Dial lamp holder	3565
103	Dial lamp	8024
104	Stop collar	376 L 380
105	Coupling wheel	377 H 76
*106	Springs	335 L 156
107	Duplex dial drive, complete	760 H 435
108	Spring	335 L 156
*109	Boss	760 L 483
110	Coupling wheel	377 H 76
111	Stop collar	376 L 381
112	Bearing	400 L 31
113	Washers	3ø × 8ø × 0.5
114	Dial lamp holder	IE 259
115	Dial lamp	8097 D/71
116	Bracket	245 H 590
117	Cap, STEREO	521 L 147
*118	Coupling	760 L 491
133	1st IF transformer	971 H 206
134	Potentiometer	500Ω-S 50
135	2nd IF transformer	971 H 207
136	FM detector	971 H 225
137	AM detector	971 H 209
138	Potentiometer	2KΩ 1-8680
139	Heat sink	760 L 417
140	Fuse holders	5965
141	PW board, complete	915 H 146
	Aerial coil, LW	996 L 440
	Aerial coil, MW	996 L 441
	Aerial coil, FW	996 L 442
	Diodes	OA 79, four pcs.
*	Diode, Zener	ZF 9,1
	Socket for electrolytic capacitor	506 H 101
	Osc. coil, LW	996 H 431
	Osc. coil, MW	996 H 432
	Osc. coil, FW	996 H 475
	Coil, 444 kc/s filter	990 L 128
	Coil, 10.7 Mc/s, coupling	990 H 54
*	Transistor	AC 126
*	Transistor	AC 128
*	Transistors	AF 116, two pcs.
*	Transistor	AF 121 (2 N2654)
*	Transistor	OC 71
142	Potentiometer	2.2 KΩ P 4
143	Push-button switch	854 F 778
*144	On/off switch	7255/3

PARTS marked with an * are preferred spare parts.

Parts List to be Continued on Page 13.



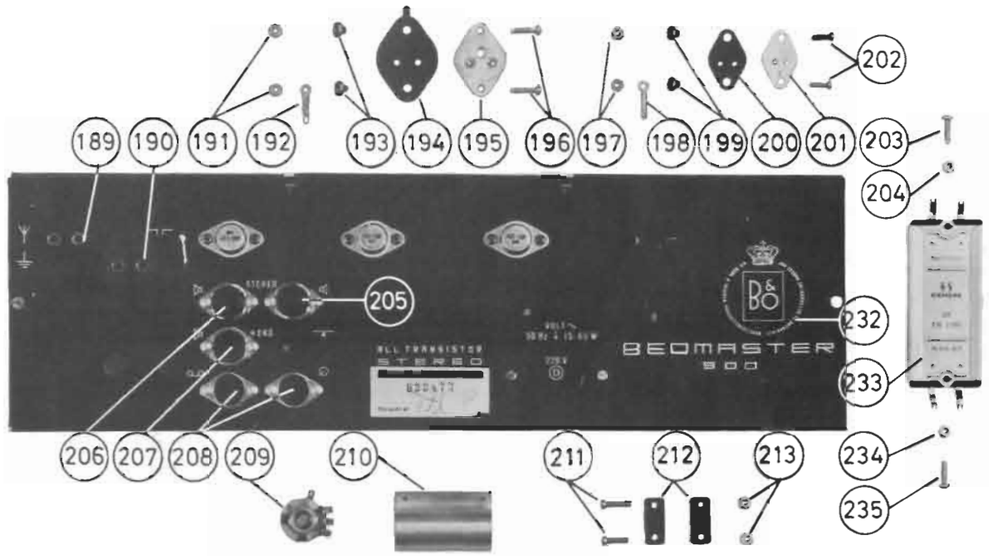


Parts List Continued from Page 11.

*145	Potentiometer	854 L 729
146	Potentiometer	854 L 729
147	AF PW-board, complete	915 H 111
148	Bushing	412 L 257
149	Angle	248 F 855
150	Bushing	412 L 257
151	Bracket	248 F 858
152	Connector socket	05 PH 1
*153	Ferrite rod, complete with coils	601 H 14
	Ferrite rod	760 L 478
154	Angle	760 F 458
155	Connector socket	197 M 2
156	Bracket	245 L 589
157	Connector plug	7496 Fu 1
189	AM aerial connector socket	962 L 92
190	FM aerial connector socket	962 L 91
191	Nuts	3 MT, hex.
192	Solder tag	4052
*193	Insulating bushings	56.201 A
*194	Mica insert	56.203 B
*195	Transistor	2 N 555 (SP 1446)
196	Screws	BZ 2.9 × 13 DIN 7981
197	Nuts	3 MT hex.
198	Solder tag	4052
199	Insulating bushings	56.201 A
*200	Mica insert	56.203
201	Transistor	AD 139
202	Screws	BZ 2.9 × 9.5 DIN 7981
203	Screws	BZ 2.9 × 13 DIN 7981
204	Nut	3 MT hex.
205	Connector socket	034 PS/20
206	Connector socket	034 PS/20
207	Connector socket	032 P/20
208	Connector sockets	05 PH/1
209	Potentiometer, balance	854 L 731
210	Clamp	240 L 291
211	Screws	AM 3 × 12 DIN 84
212	Clamp	287 L 155
213	Nuts	3 MT hex.
*214	Electrolytic capacitor	800 µF/25 V KNIP 832
215	Washer	376 L 403
216	Electrolytic capacitor	800 µF/25 V KNIP 832
217	Bracket	248 F 857
218	Screw	AM 4 × 30 DIN 84
219	Nut	4 MT hex.
220	Screen	535 L 478
*221	Power transformer	ST 3907

PARTS marked with an * are preferred spare parts.

Parts List to be Continued on Page 15.



Parts List Continued from Page 13.

222	Screen	535 L 478
223	Nut	4 MT hex.
224	Screw	AM 4 × 30 DIN 84
225	Fuse holders	5965
*226	Potentiometer, volume	854 L 730
227	Mounting plate	507 L 852
228	Bushings	410 L 273
229	Screws	BZ 2.9 × 13 DIN 7981
*230	Electrolytic capacitor	1000 µF/50 V KB 108 AT
231	Clamp	240 L 283
232	Mounting plate, rear wall	507 C 871
*233	Selenium rectifier	B 30 C 1600
234	Nut	BZ 2.9 × 13 DIN 7981

Extra Accessories:

*Connector plug, AM aerial	B.A.S.4 or Type Z twin plug (flat contacts)
*Connector plug, FM aerial	B.A.S.4 or Type Z twin plug (flat contacts)
*Connector plug, tape recorder	8-7506
*Connector plug, speaker	S.34, three pcs.
Connector plug, gramophone	8-7506
*Telescopic dipole	2017

PARTS marked with an * are preferred spare parts.

DESCRIPTION

The BEOMASTER 900 radio receiver is an all-transistor AC receiver incorporating an FM tuner and two PW boards.
PW board 915 H 146 comprises: Power supply section; AM-RF and IF section; FM-IF section.
Unit 915 H 138 comprises: FM-RF section and tuning capacitor for FM.
PW board 915 H 111 contains the audio amplifier.

FM

The signal from the aerial is applied, via the input transformer, to AF 106 $_1$, which operates as an RF amplifier. The amplified signal is fed to the emitter of AF 106 $_2$, which functions as a self-excited mixer. An AFC diode, BA 101, incorporated in the oscillator circuit is controlled directly from the FM detector. By means of a switch, the IF signal is applied to the base of AF 116 $_1$, which operates as AM mixer and FM-IF amplifier. AF 116 $_2$ and 2 N 2654 operate as IF amplifiers, and the signal rectifier consists of two OA 79 diodes, one series resistance of which has been made variable so as to make it possible to achieve a perfectly symmetrical curve form. AVC bias voltage from the FM detector is applied to the base of AF 106 $_1$ via 1 KΩ.

AM

The receiver has a ferrite aerial for use on LW, MW, and FW, which may be deactivated by depressing the aerial push-button, thereby also connecting aerial (signal-frequency) coils for use with an external aerial. The incoming signal is applied to AF 116 $_1$, which operates as a self-excited mixer. The output of the mixer is amplified by two IF stages, AF 116 $_2$ and 2 N 2654. The signal rectifier is an OA 79 diode, which also supplies AVC bias voltage. The AM detector circuit is raised -1.4 volts above chassis, and the AVC bias moves in the positive direction - that is, towards chassis potential. The bias voltage is applied to the base of AF 116 $_2$ via 33 KΩ, 6.4 µF, and 270 Ω in the secondary circuit of the 1st AM-IF amplifier.

AF

The audio signal is fed to the stereo, gramophone, and tape-recorder switches, which connect to separate DIN connector sockets. With the MONO button released, the stereo indicator will show light in the following functions: gramophone, tape playback, and FM if a stereo decoder is installed.
The two audio amplifiers employ DC coupled driver and output stages. The output signal is fed to the speakers through capacitors.

FM STEREO

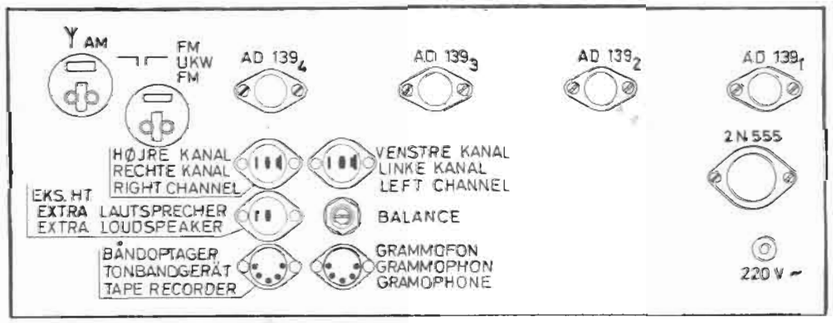
The BEOMASTER 900 is prepared for stereo broadcasts according to the FCC multiplex system, and a stereo decoder may be connected through a 9-pin miniature plug after removal of the de-emphasis network, 994 L 27.
The indicator lamp will show light on reception of the 19 kc/s pilot frequency.
The stereo decoder is supplied complete with instructions for installation under the designation 0001.

THE SPEAKERS OF THE MODEL 900 K

are mounted in the pressure-chamber cabinet, which also includes the space in the middle. It is therefore inadvisable to apply large amounts of power to the speakers with the chassis removed from the cabinet because the air damping is necessary to limit the excursions of the cone.

STABILIZED POWER SUPPLY

Because the power consumption of the output stage varies within wide limits (0.1 - 1.6 amperes), a voltage stabilization circuit has been incorporated in the power supply section. A 2N555 power transistor is controlled by a Zener diode and two driver transistors. In addition to stabilization, the circuit also provides effective filtering of the ripple frequency.
A more complete theoretical discussion of the output stage and power supply will be found on pages 18-22 of the Service Manual for the Master 610 Radio Set.



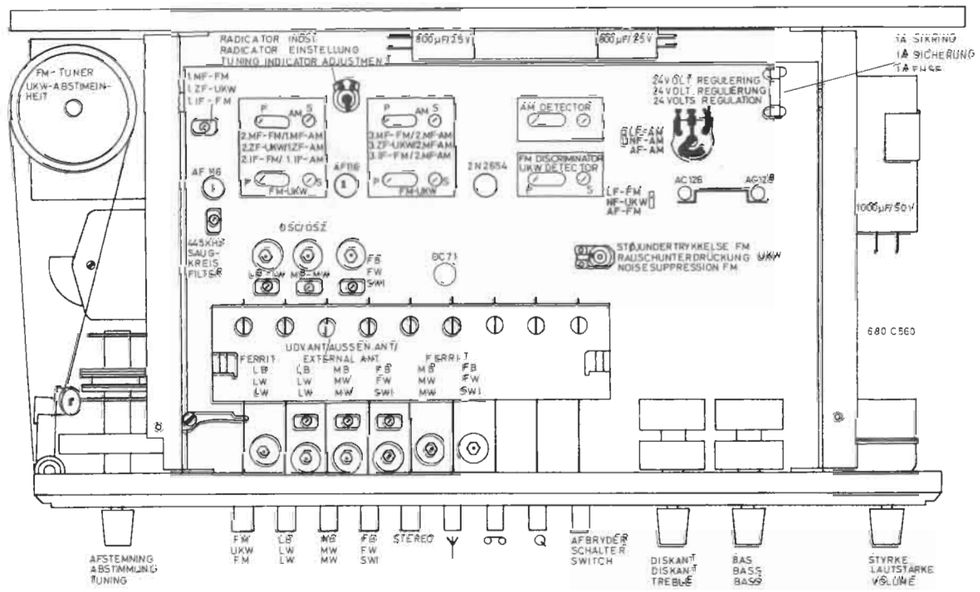
The four output transistors and the power supply transistor are insulated from the mounting plate by mica inserts and bushings. If this insulation is defective, one or more transistors and resistors will be permanently damaged.

NOTE

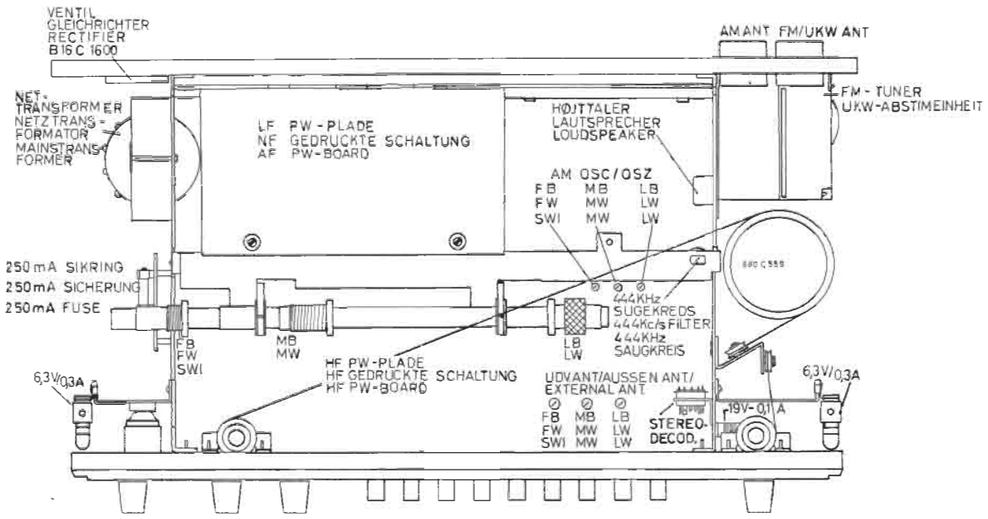
The outer shells (collectors) of these transistors are not insulated and consequently must be protected from contact with the telescopic dipole and with cables or plugs connected to chassis or earth.

444 Kc/s IF ALIGNMENT

This alignment should be performed with the MW push-button depressed and the plates of the tuning capacitor fully meshed. The signal from the alignment oscilloscope should be applied at point A (the base of AF 116 1) through a 0.1 µF capacitor and with the tuning slug of the IF series-resonant wave trap screwed all the way out.



The signal is taken off at the tag marked AF-AM (see layout sketch), and the circuits should be tuned for maximum response and symmetrical curve form; bandwidth at 6 dB should be 5 kc/s ± 0.5 kc/s. The IF signal should thereafter be applied through the aerial connector socket and the IF series-resonant trap tuned for maximum attenuation.



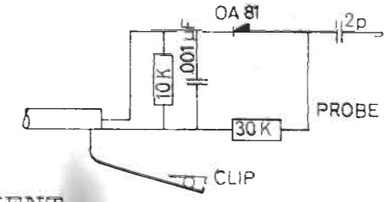
ALIGNMENT POINTS

With the tuning capacitor fully meshed, the pointers should cover the marks at the right-hand side of the dial.
Sensitivities on ferrite aerial, measured in a screened room, with a signal from a frame aerial at 500 mW power output:

LW:	160 and 272 kc/s,	sensitivity 400 and 280 µV/m.
MW:	584 and 1484 kc/s,	sensitivity 200 and 112 µV/m.
FW:	1596 and 3750 kc/s,	sensitivity 70 and 90 µV/m.

Sensitivities measured at the aerial connector socket at 50 mW power output:

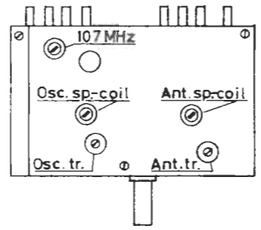
LW:	160 and 272 kc/s,	sensitivity 5 and 5 µV.
MW:	584 and 1484 kc/s,	sensitivity 5 and 12.5 µV.
FW:	1596 and 3750 kc/s,	sensitivity 5 and 5 µV.



FM ALIGNMENT

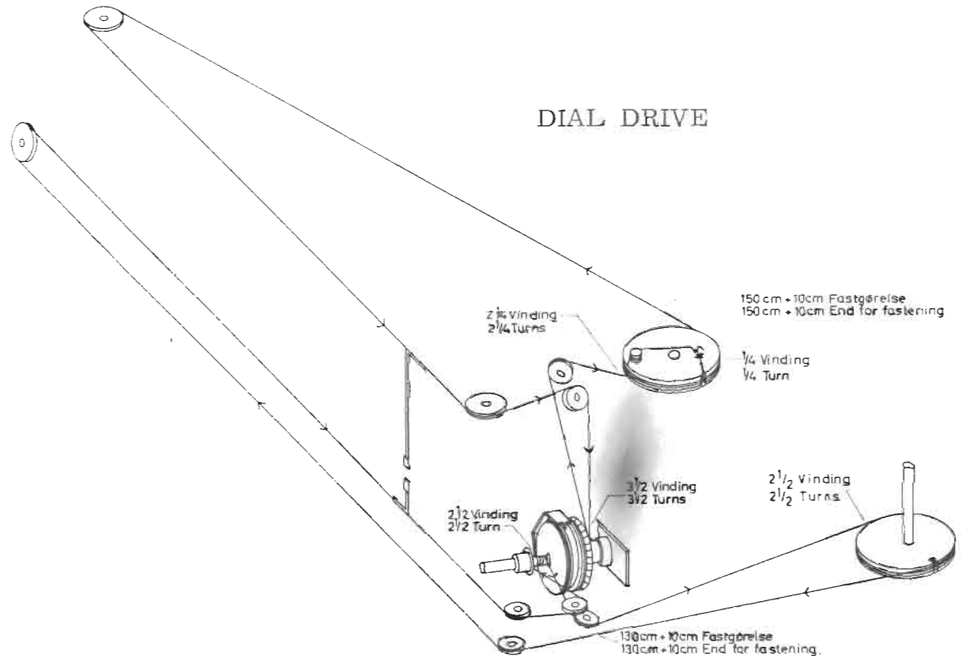
Before beginning to align the receiver, the AFC should be deactivated by depressing the aerial push-button. Alignment of the 10.7 Mc/s IF should be performed with a sweep generator. Apply a 97 Mc/s signal through the external-serial connector socket and connect the oscilloscope to the collector of the 2N2654 through a probe with a built-in diode (see sketch). Tune for maximum response and symmetrical curve-form; bandwidth at 6 dB should be 250 kc/s ± 30 kc/s. To adjust the discriminator, connect the oscilloscope to the tag marked AF-FM (see

layout sketch) without the probe and tune for symmetrical curve-form and best noise suppression by means of the semi-variable 2 KΩ potentiometer.
The 10.7 Mc/s parallel-resonant wave trap should be adjusted with a 10.7 Mc/s sweep signal applied through the external aerial connector socket. Tune for minimum curve height.



Oscillator adjustment is performed by means of the trimmer and the tuning slug in the FM unit. Adjust RF for maximum response (see layout sketch). Sensitivity at 92 Mc/s: 3.5 µV at 500 mW power output with the bass and treble controls at maximum.
10 dB signal/noise ratio at 2 µV, measured with the bass and treble controls at maximum.

DIAL DRIVE



RADICATOR

The radicator is adjusted by means of the potentiometer numbered 89 in the circuit diagram; see layout sketch on page 18. The LW and MW push-button should be depressed at the same time, and the potentiometer should be adjusted for a radicator reading of 1.

BALANCE

The potentiometer on the rear wall of the set should be adjusted at 50 mW output, for instance with a 1000 c/s frequency record and an outputmeter. At 6 watts output a 3 dB difference between the two channels is permissible.

POWER SUPPLY SECTION

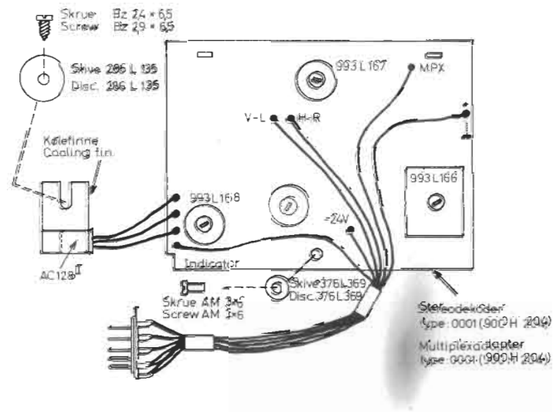
The 24 volt DC supply is adjusted with the potentiometer numbered 904 in the circuit diagram in the FM position and with the volume control turned down. The vacuum-tube voltmeter should be connected at H.

HUM when the receiver is tuned to a strong FM signal

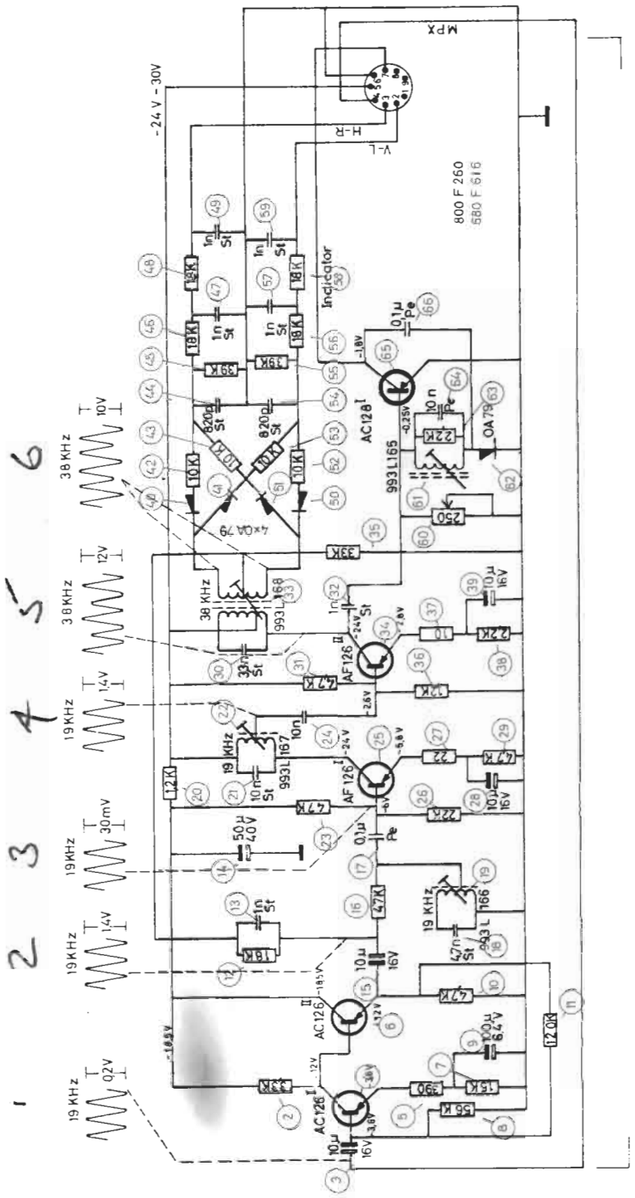
may be due to pick-up by the tuner AFC lead of the power-transformer hum field. This fault has been corrected by the use of a screened lead between the 0,1 µF capacitor numbered 115 in the circuit diagram and the AFC point of the FM tuner.

INSTALLING A TYPE 0001 (900 H 204) STEREO DECODER.

Unscrew the two screws retaining the AF PW-board (602 L 6) and tip the board upwards.
Remove the de-emphasis plug (994 L 27) from the Stereo Decoder connector socket (adjacent to the stereo indicator lamp).
Pull the plug-terminated wiring harness coming from Stereo Decoder 900 H 204 out from the place intended for the Decoder; then pull it in below the PW-board mounting strip and out to the connector socket and insert the plug.
While mounting the decoder in position, pull the cooling-fin-equiped indicator transistor, AC 128 2, down and out through the chassis (above the inside speaker connector socket) and screw it into place on the outer side of the chassis, using a self-tapping screw (Bz 2,9 × 6,5) in the free hole on the top side of the chassis. A washer (286 L 135) is required between the screw and the cooling fin.
Solder the Stereo Decoder PW-board to the two studs of the bracket (in the same manner as the AF PW-board) and screw it into place on the mounting strip, using a screw (AM 3 × 6) and a fibre washer (376 L 369).
When installing the Stereo Decoder in the BEOMASTER 900 omit one bracket (760 L 472) and one screw (AM 3 × 6).



CIRCUIT DIAGRAM OF STEREO DECODER 0001

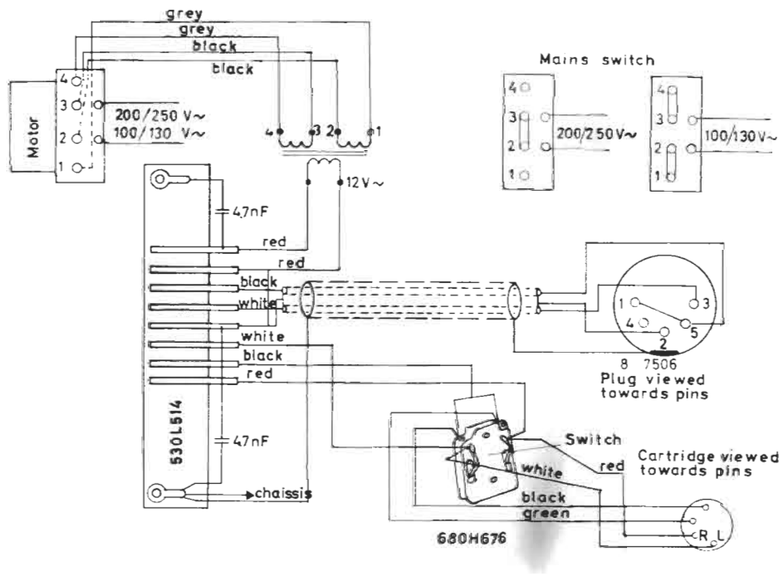


IN THE BEOMASTER 900 RG DE LUXE

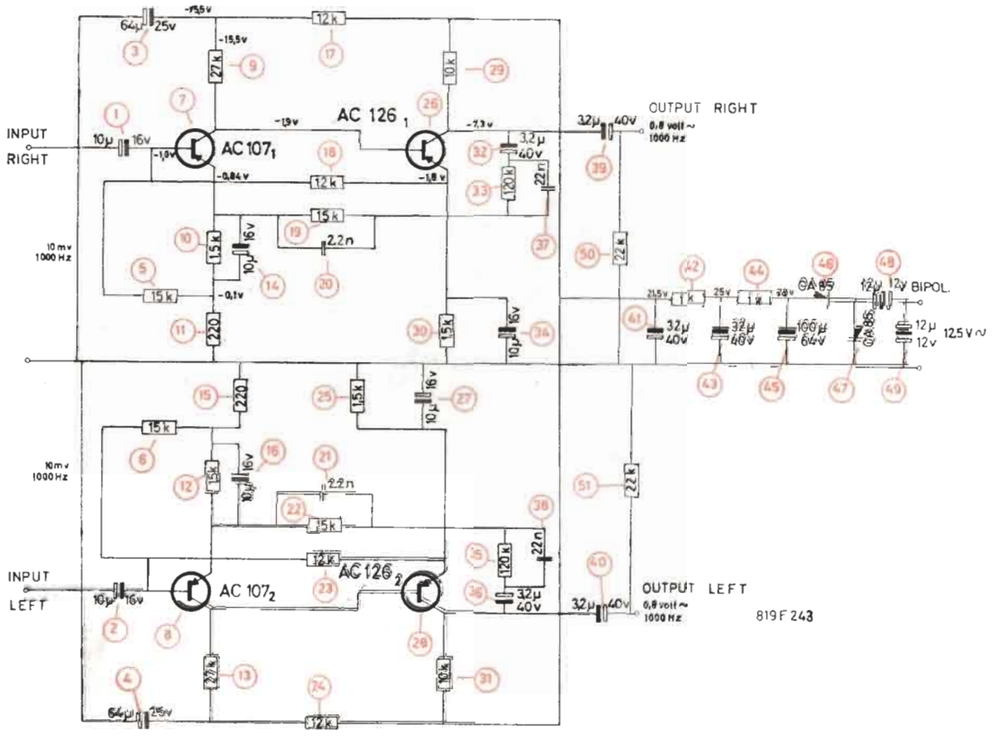
a Garrard auto turntable type AT 6 MARK II has been built-in.

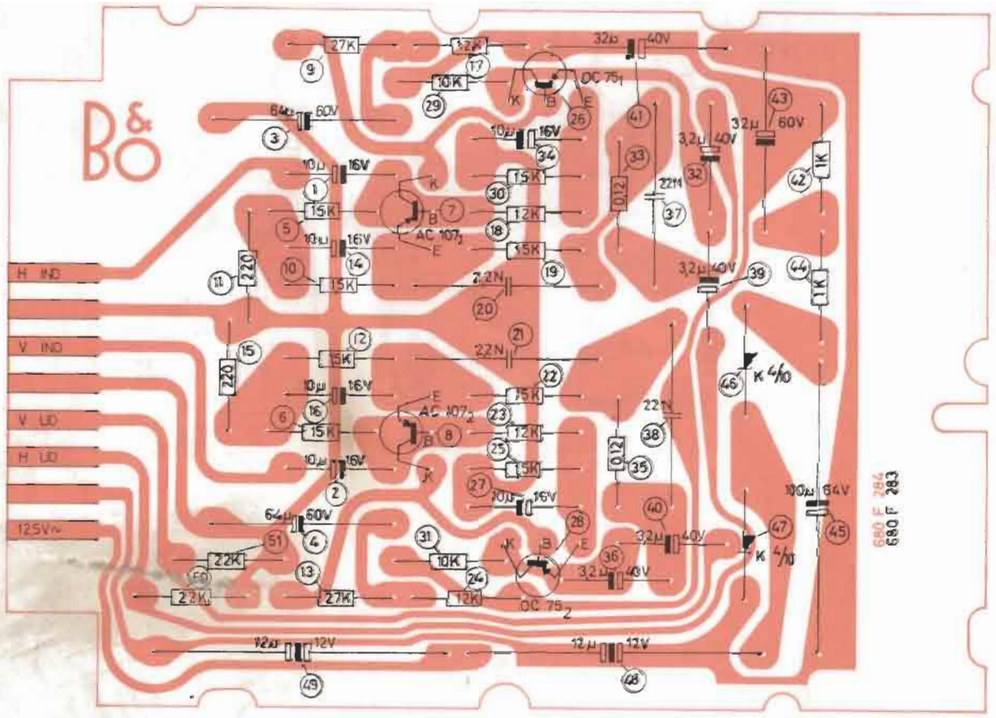
Spare parts can be ordered from GARRARD Spares Department, 50-54 Radnor Street, Swindon, Wilts, England.

GENERAL WIRING DIAGRAM



CIRCUIT DIAGRAM OF PRE-AMPLIFIER 915 H 59





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Corrections to parts list for Beomaster 900.

Parts list, Beomaster 900 type 2232-7

123	Potentiometer 2 × 10 kΩ, treble	5310013
124	Potentiometer 2 × 10 kΩ, bass	5310013
	Spiral spring for bass/treble potentiometre	2818002
157	Mounting plate with jacks	3124027
161	Jack DIN for tape recorder	7212006
	Jack DIN for gramophone	7212013
	Screen, protection front frame	3302010
	Cabinet, teak	0542451
	Cabinet, rosewood	0542452
	Cabinet, oak	0542453
	Outer carton	3391028
	Packing, pycofoam insert (polystyrene)	3397012
	Operating instructions, english	3502048
	Mode d'emploi, français	3502037
	Gebruiksaanwijzing, hollands	3502049

Parts list, Beomaster 900 type 2233-1

39	Stereo decoder	8900001

Other parts as for Beomaster 900 type 2232-7.

Parts list, Beomaster 900 type 2236-7

Cabinet, teak	0542511
Cabinet, rosewood	0542512
Cabinet, oak	0542513
Outer carton	3391029
Packing, pycofoam insert (polystyrene)	3397012

Other parts as for Beomaster 900 type 2232-7.

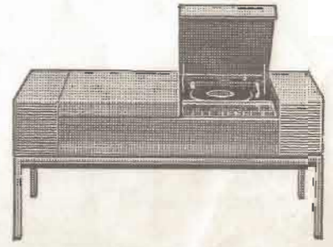
Parts list, Beomaster 900 type 2237-1

39	Stereo decoder	8900001

Other parts as for Beomaster 900 type 2236-7.

BEOMASTER 900 RG TYPE 2250

NOTE: The Beomaster 900 RG type 2250 illustrated on the front page is incorrect.
The correct illustration of the Beomaster 900 RG type 2250 is shown here.



TECHNICAL DATA FOR BEOMASTER 900 RG, TYPE 2250

DIMENSIONS AND WEIGHT

Dimensions:	1293 mm wide, 586 mm high (incl. legs), 510 mm deep (50 15/16 X 23 1/16 X 20 1/16 in.)
Weight:	54 kilos (118.8 lbs.)

POWER SUPPLY

Voltage:	110 and 240 volts AC.
Frequency:	50 - 60 Hz (gramophone motor may be converted for 60 Hz).
Power Consumption:	Radio section: 10 watts at 100 mW output approx. 65 watts at max. output. Gramophone motor: Approx. 10 watts.

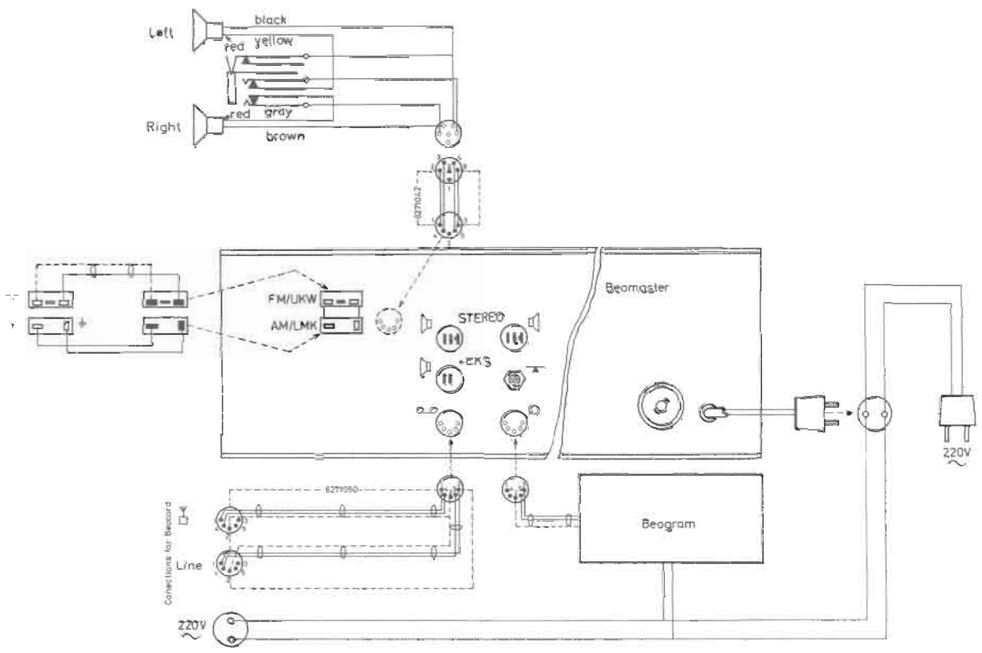
OUTPUT

Headphones:	3 - 30 Ω.

SPEAKER

Units:	Two 28/17 TV 2 X D 35 - 40.

Other data as for Beomaster 900 type 2232-7 and Beogram 1000 type 5203.



BEOMASTER 900 RG, TYPE 2250

Description

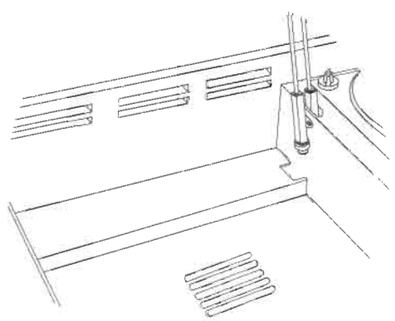
The BEOMASTER 900 RG is a radio gramophone with built-in speakers and space for placement of a Beocord.

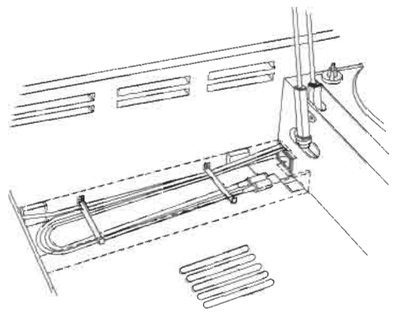
The radio section of this combination is a Beomaster 900, Type 2232-7, described in a previous section of this manual.

The gramophone is identical with the Beogram 1000, Type 5203, except for the mounting plate. For information about functions and parts list for the gramophone section see BEOGRAM 1000 service manual.

Tape Recorder.

A DIN standardized tape recorder, with or without an output amplifier, may be inserted in the large space in the console (record storage compartment) after removal of the large cover plate. Cables for the RADIO and LINE sockets, and the power socket, are installed in the console; normally, they are concealed under a wooden panel (see sketch) which lifts off easily. After the tape recorder has been connected, the panel should be replaced; the space above it may be used for storing audio tapes. If a headphone socket is provided on the right-hand side of the tape recorder it will not be possible to use it, owing to the limited space available; the headphone socket of the radio section should be used instead.



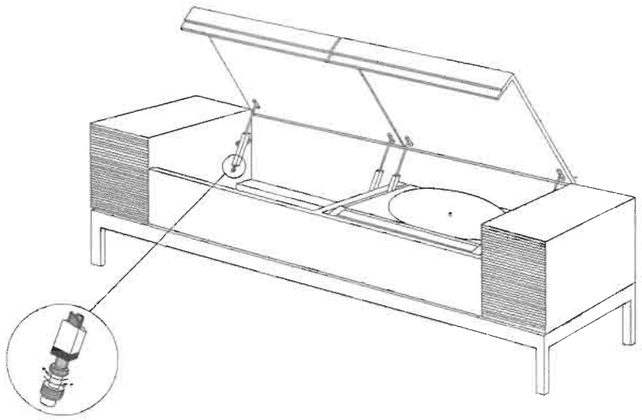


Speakers.

The built-in speakers are Type 8480042 dual-cone speakers. Extension speakers may be plugged directly into the sockets of the Beomaster 900, but the load impedance must not become lower than 4 Ω, or the amplifier output stage will be overloaded.

Headphones.

A pair of low-impedance (3 - 30 Ω) stereo headphones may be connected to the radio section through a jack socket located between the record player and the radio section. The built-in speakers are turned off automatically on insertion of the headphone plug.



Each of the two lids has a separate brake device which can be adjusted for quicker or slower lowering. Take out the large cover plate in the compartment to the left; two adjusting screws will then be accessible as shown above. The adjusting screws cannot be operated when the lids are in their top positions, when they are hidden under stop rings.
NOTE: Grease must not be used because the brake function will fail.

Disassembly.

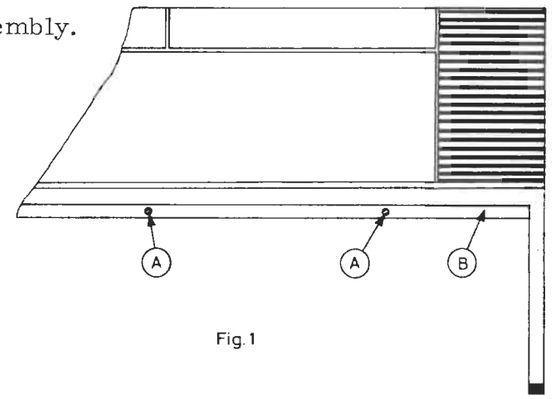


Fig. 1

1. Remove the screws marked A. Pull out the plugs from under the bottom. Now, using light pressure, push the radio section sufficiently far upwards to permit unplugging the speaker leads (5-contact DIN plugs). You may now pull the radio section entirely clear of the cabinet, following which the power plug may be pulled out.

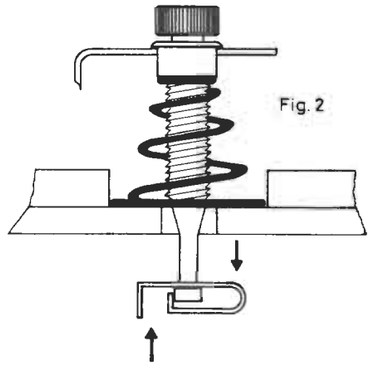


Fig. 2

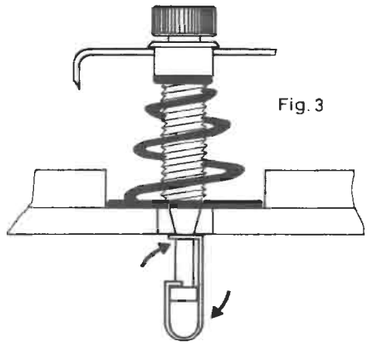


Fig. 3

2. To take out the gramophone section, turn the four spires on the transit screws in the direction of the arrow as shown in Figs. 2 and 3. The gramophone power flex is connected to the block under the motor.
   NOTE: The radio section must be removed before the gramophone section.

3. To remove the speaker grille, remove the screw marked B (see Fig. 1).

PARTS LIST FOR BEOMASTER 900 RG, TYPE 2250

Flex with plug	0612046
Terminal strip, 2-contact	7505003
Screw, 2.84 X 15.87 mm	2013205
Extension cord	7211012
Bracket for extension cord	2530090
Wood screw, 1 1/2" No. 4	2084500
Aerial socket, AM/FM	7212012
Mounting plate for aerial socket	3122018
Screw, 3.50 X 22.22 mm	2015207
Rubber sleeve for flex	2938002
Relief piece for flex	0287155
Screw, 2.84 X 9.52 mm	2013208
Nylon clamp No. 8 (two pcs., 8 mm)	2515004
Nylon clamp No. 7 (one pc., 7 mm)	2515003
Screw, 3.50 X 9.52 mm	2015201
Aerial socket, FM	7221019
Aerial socket, AM	7221022
5-contact plug for speaker extension cord	7222015
6-contact plug for speaker extension cord	7223005
Bracket with 6-contact socket	2530088
Screw, 3.50 X 9.52 mm	2015201
Speaker, 5Ω, B 65 FM	8480042
Headphone jack socket	7212001
Plate for jack	3182029
Extension cord for radio and tape recorder	6271050
5-contact DIN plug (straight)	7222017
5-contact DIN plug (90°)	7222010
Cable clamp, for tape recorder cable	2816006
Screw, 3.50 X 9.52 mm	2015201
Screw, AM 4 X 50, for radio section	2042246
Washer, 4.3 DIN 125	2622086
Drive-fit nut, M 4 (housing for radio section)	2389003
Washer for gramophone motor	2622053
Transit screw	2046901
Spring for gramophone motor	0330273
Spire speed (transit protection)	2395014
Record library	3152011
Indicator prism	2990007
Holder for indicator	2510004
Screw, 3.50 X 9.52 mm	2015201
Shock absorber for cover	3151019
Screw, 3.5 X 19, brass	2015901
Screw, 2.9 X 13, nickel-plated	2013100
Screw, AM 4 X 25	2043121
Washer, 4.2 mm dia. X 10 mm dia. X 1 mm	2622020
Nut, M 4 DIN 934	2380016
Rubber stopper, stop for cover	3341001
Insert clamp for leg bolts	2632002
Leg bolt	2991003
Washer, 8.4 DIN 125	2622068
Nut, 5/16 BSW DIN 70	2380061
Base for under frame	3103012

Parts List for BEOMASTER 900 RG, Type 2250, continued.

	Cabinet, teak	3410241
	Cabinet, Brazilian rosewood	3410242
	Cabinet, oak	3410243
	Packing, carton	3391150
	Packing, gable insert	3391151
	Packing, front/rear insert	3391152
	Packing, top/bottom insert	3391153
	Packing, leg insert	3391154
	Packing, cardboard insert (top)	3391155
	Packing, cardboard insert (bottom)	3391156
	Packing, gramophone insert	3397037
	Packing, cardboard insert for gramophone	3391045
	Plate with voltage-indicator turntable	0562721

For other parts see pages 7-15 of parts list, and pages 10-15 of parts list in Beogram 1000 service manual.

40	Chassis, gramophone	3114009

NOTES

NOTES

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RADIO & TELEVISION

Corrections to parts list for Beomaster 900.

Parts list, Beomaster 900 type 2232-7

123	Potentiometer 2 × 10 kΩ, treble.....	5310013
124	Potentiometer 2 × 10 kΩ, bass.....	5310015
	Spiral spring for bass/treble potentiometre..	2818002
157	Mounting plate with jacks.....	3124027
161	Jack DIN for tape recorder.....	7212006
	Jack DIN for gramophone.....	7212013
	Screen, protection front frame.....	3302010
	Cabinet, teak.....	0542451
	Cabinet, rosewood.....	0542452
	Cabinet, oak.....	0542453
	Outer carton.....	3391028
	Packing, pycofoam insert (polystyrene).....	3397012
	Operating instructions, english.....	3502048
	Mode d'emploi, français.....	3502037
	Gebruiksaanwijzing, hollands.....	3502049

Parts list, Beomaster 900 type 2233-1

39	Stereo decoder.....	8900001

Other parts as for Beomaster 900 type 2232-7.

Parts list, Beomaster 900 type 2236-7

Cabinet, teak.....	0542511
Cabinet, rosewood.....	0542512
Cabinet, oak.....	0542513
Outer carton.....	3391029
Packing, pycofoam insert (polystyrene).....	3397012

Other parts as for Beomaster 900 type 2232-7.

Parts list, Beomaster 900 type 2237-1

39	Stereo decoder.....	8900001

Other parts as for Beomaster 900 type 2236-7.

BEOMASTER 900 RG TYPE 2250

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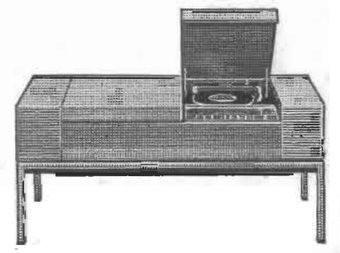
The correct illustration of the Beomaster 900 RG type 2250 is shown here.



TECHNICAL DATA FOR BEOMASTER 900 RG, TYPE 2250

DIMENSIONS AND WEIGHT

Dimensions:	1293 mm wide, 586 mm high (incl. legs), 510 mm deep (50 15/16 × 23 1/16 × 20 1/16 in.)
Weight:	54 kilos (118.8 lbs.)

POWER SUPPLY

Voltage:	110 and 240 volts AC.
Frequency:	50 - 60 Hz (gramophone motor may be converted for 60 Hz).
Power Consumption:	Radio section: 10 watts at 100 mW output approx. 65 watts at max. output. Gramophone motor: Approx. 10 watts.

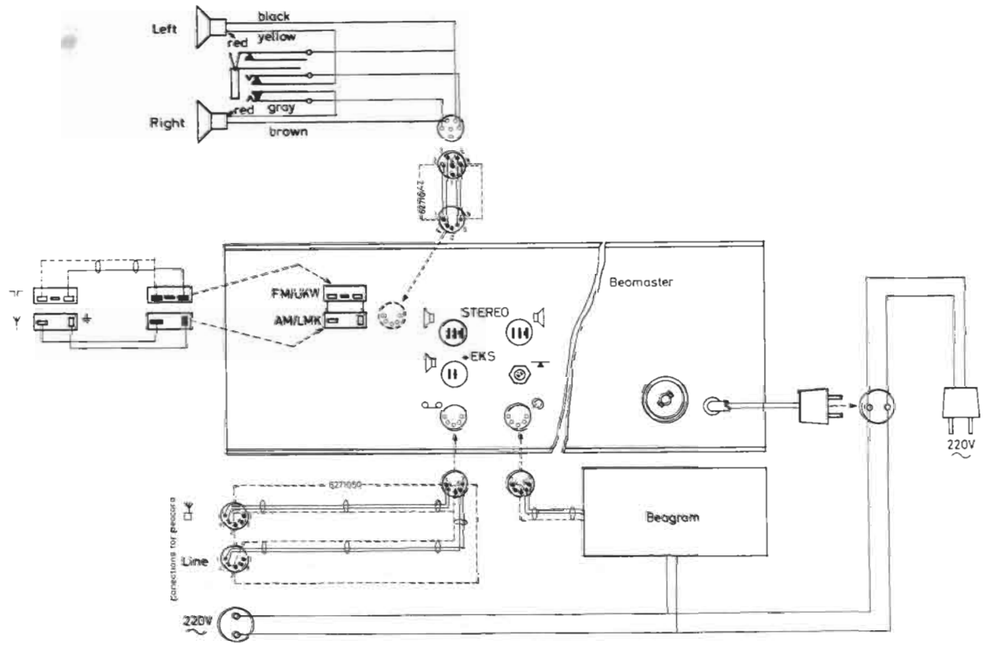
OUTPUT

Headphones:	3 - 30 Ω.

SPEAKER

Units:	Two 28/17 TV 2 × D 35 - 40.

Other data as for Beomaster 900 type 2232-7 and Beogram 1000 type 5203.



BEOMASTER 900 RG, TYPE 2250

Description

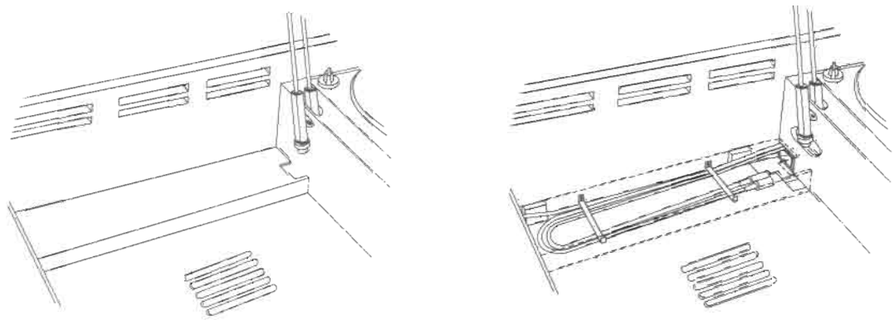
The BEOMASTER 900 RG is a radio gramophone with built-in speakers and space for placement of a Beocord.

The radio section of this combination is a Beomaster 900, Type 2232-7, described in a previous section of this manual.

The gramophone is identical with the Beogram 1000, Type 5203, except for the mounting plate. For information about functions and parts list for the gramophone section see BEOGRAM 1000 service manual.

Tape Recorder.

A DIN standardized tape recorder, with or without an output amplifier, may be inserted in the large space in the console (record storage compartment) after removal of the large cover plate. Cables for the RADIO and LINE sockets, and the power socket, are installed in the console; normally, they are concealed under a wooden panel (see sketch) which lifts off easily. After the tape recorder has been connected, the panel should be replaced; the space above it may be used for storing audio tapes. If a headphone socket is provided on the right-hand side of the tape recorder it will not be possible to use it, owing to the limited space available; the headphone socket of the radio section should be used instead.

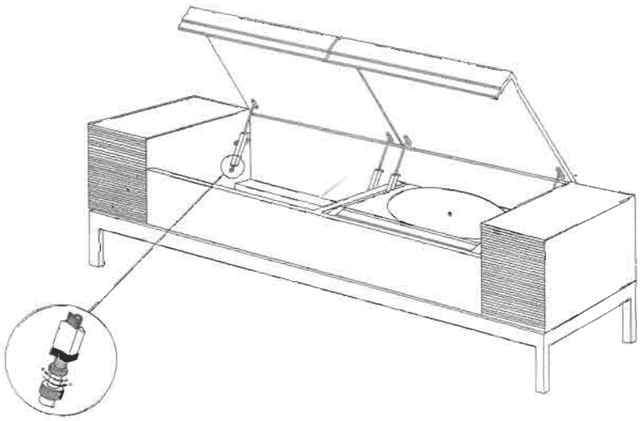


Speakers.

The built-in speakers are Type 8480042 dual-cone speakers. Extension speakers may be plugged directly into the sockets of the Beomaster 900, but the load impedance must not become lower than 4 Ω, or the amplifier output stage will be overloaded.

Headphones.

A pair of low-impedance (3 - 30 Ω) stereo headphones may be connected to the radio section through a jack socket located between the record player and the radio section. The built-in speakers are turned off automatically on insertion of the headphone plug.



Each of the two lids has a separate brake device which can be adjusted for quicker or slower lowering. Take out the large cover plate in the compartment to the left; two adjusting screws will then be accessible as shown above. The adjusting screws cannot be operated when the lids are in their top positions, when they are hidden under stop rings.
NOTE: Grease must not be used because the brake function will fail.

Disassembly.

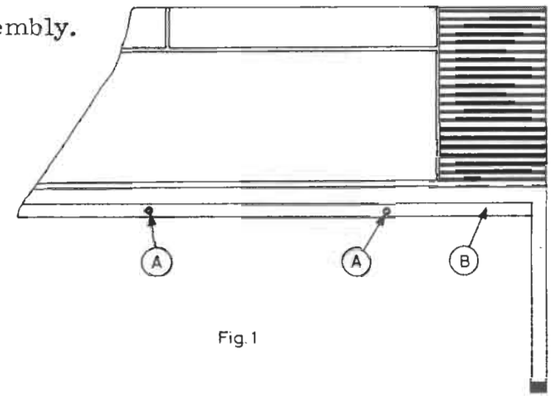


Fig. 1

1. Remove the screws marked A. Pull out the plugs from under the bottom. Now, using light pressure, push the radio section sufficiently far upwards to permit unplugging the speaker leads (5-contact DIN plugs). You may now pull the radio section entirely clear of the cabinet, following which the power plug may be pulled out.

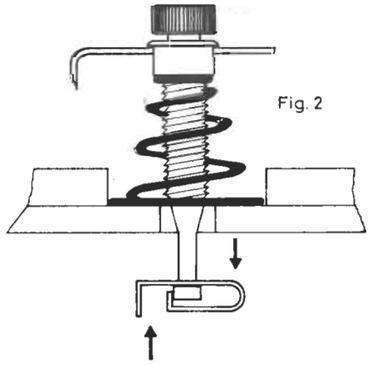


Fig. 2

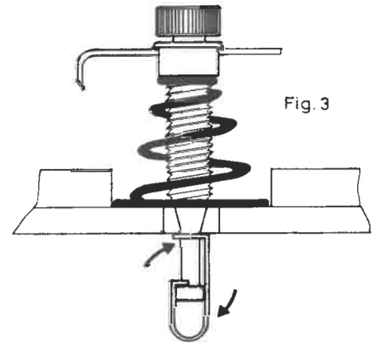


Fig. 3

2. To take out the gramophone section, turn the four spires on the transit screws in the direction of the arrow as shown in Figs. 2 and 3. The gramophone power flex is connected to the block under the motor.
NOTE: The radio section must be removed before the gramophone section.

3. To remove the speaker grille, remove the screw marked B (see Fig. 1).

PARTS LIST FOR BEOMASTER 900 RG, TYPE 2250

Flex with plug	0612046
Terminal strip, 2-contact	7505003
Screw, 2.84 X 15.87 mm	2013205
Extension cord	7211012
Bracket for extension cord	2530080
Wood screw, 1 1/2" No. 4	2084500
Aerial socket, AM/FM	7212012
Mounting plate for aerial socket	3122018
Screw, 3.50 X 22.22 mm	2015207
Rubber sleeve for flex	2938002
Relief piece for flex	0287155
Screw, 2.84 X 9.52 mm	2013208
Nylon clamp No. 8 (two pcs., 8 mm)	2515004
Nylon clamp No. 7 (one pc., 7 mm)	2515003
Screw, 3.50 X 9.52 mm	2015201
Aerial socket, FM	7221019
Aerial socket, AM	7221022
5-contact plug for speaker extension cord	7222015
6-contact plug for speaker extension cord	7223005
Bracket with 6-contact socket	2530088
Screw, 3.50 X 9.52 mm	2015201
Speaker, 5Ω, B 65 FM	8480042
Headphone jack socket	7212001
Plate for jack	3182029
Extension cord for radio and tape recorder	6271050
5-contact DIN plug (straight)	7222017
5-contact DIN plug (90°)	7222010
Cable clamp, for tape recorder cable	2816006
Screw, 3.50 X 9.52 mm	2015201
Screw, AM 4 X 50, for radio section	2042246
Washer, 4.3 DIN 125	2622086
Drive-fit nut, M 4 (housing for radio section)	2389003
Washer for gramophone motor	2622053
Transit screw	2046901
Spring for gramophone motor	0330273
Spire speed (transit protection)	2395014
Record library	3152011
Indicator prism	2990007
Holder for indicator	2510004
Screw, 3.50 X 9.52 mm	2015201
Shock absorber for cover	3151019
Screw, 3.5 X 19, brass	2015901
Screw, 2.9 X 13, nickel-plated	2013100
Screw, AM 4 X 25	2043121
Washer, 4.2 mm dia. X 10 mm dia. X 1 mm	2622020
Nut, M 4 DIN 934	2380016
Rubber stopper, stop for cover	3341001
Insert clamp for leg bolts	2632002
Leg bolt	2991003
Washer, 8.4 DIN 125	2622068
Nut, 5/16 BSW DIN 70	2380061
Base for under frame	3103012

Parts List for BEOMASTER 900 RG, Type 2250, continued.

	Cabinet, teak	3410241
	Cabinet, Brazilian rosewood	3410242
	Cabinet, oak	3410243
	Packing, carton	3391150
	Packing, gable insert	3391151
	Packing, front/rear insert	3391152
	Packing, top/bottom insert	3391153
	Packing, leg insert	3391154
	Packing, cardboard insert (top)	3391155
	Packing, cardboard insert (bottom)	3391156
	Packing, gramophone insert	3397037
	Packing, cardboard insert for gramophone	3391045
	Plate with voltage-indicator turntable	0562721

For other parts see pages 7-15 of parts list, and pages 10-15 of parts list in Beogram 1000 service manual.

40	Chassis, gramophone	3114009

NOTES

A/S BANG & OLUFSEN PRODUKTIONSSELSKAB LEVERANDØR TIL DET KGL. DANSKE HOF

B&O SERVICE INFORMATION

TECHNICAL DEPARTMENT, GLOUCESTER. ISSUE 1.

DATE MAY 1967.

Service Information Bulletins will be published at irregular intervals as information becomes available. Centres are requested to supply information to Gloucester, which they feel may be of interest and use to other Centres. B. & O. U.K. Technical Department reserve the right of publication of any material received. The copyright of any material published belongs to Sony U.K.

BEOMASTER 900.

TRANSISTOR HISS WITH VOLUME CONTROL AT MINIMUM SETTING.

Replace the AC 128's located in the output stages with AC 153's. This is a mandatory modification and applies to AC 128's in any part of the circuitry of B. & O. equipment.

RESIDUAL HUM WHEN VOLUME CONTROL AT MINIMUM.

Some 900 Chassis require screened leads to be fitted to the volume control. The most common cause, however, is loose laminations of the mains transformers, the repair being the complete replacement of these transformers with a modified version.

WHISTLE ON THE MEDIUM WAVE BAND.

Re-align IF's from 444 k.c./s. to 450 k.c./s. Make sure that the 444 k.c./s. IF trap is also correctly aligned to the new IF frequency, otherwise the medium wave will be instable at the bottom end. A further cause of instability is the screening of the last IF and in severe cases, this can may have to be soldered into position.

We have noticed that engineers are being careless when fitting replacement transistors into the heat sinks. We would like to point out that failure to get proper contact will cause these transistors to fail more frequently.

DUPLEX DRIVE MECHANISM.

To cure both pointers travelling at the same time, it is suggested that the drive cord tension is reduced by slightly stretching each spring; the reason for this drive cord being over-tight is due to the relative humidity of the area where the radio is being used. In severe cases where this will not effect a cure, it is suggested that the clutch plates be replaced. Excessive oiling of the drive spindle will merely aggravate this fault and should be avoided.

Cont'd/2.....

A/S BANG & OLUFSEN PRODUKTIONSSELSKAB LEVERANDØR TIL DET KGL. DANSKE HOF

B&O SERVICE INFORMATION

Con'd/1.....

MOTORBOATING ON AM.

A cure may be effected by placing a .1 mfd. between the base and collecter of the AC 126 transistor in the power supply. As a further precaution, remove capacitor, number 903, in the same circuit. We have noticed in a number of cases that replacement speakers for the 900K's have been wrongly wired causing them to be out of phase, the effect being drop in volume when used in the stereo position. We would therefore urge engineers to ensure that when replacing loud-speakers that they take care to note the colour coding.

It is suggested when a short circuit appears on the power supply that it is isolated (the power supply) from the rest of the circuit before any attempt to replace the transistors that may have gone short circuit is made. You can then safely switch on the radio and work on the power supply, bearing in mind that to ensure it is regulating correctly, it should be possible to vary the potentiometer, number 903, (this refers to 900 chassis) so that the voltage output varies from 18 to 30 volts and the final adjustment should be set at exactly 24 v. Before re-connecting this power supply, it is now essential to locate the short circuit in the rest of the receiver. These normally appear in the output stages and can invariably be traced to the AD139's and/or the AC128's. A quick check as to whether you have removed theshorts is to replace the lead on the power supply momentarily whilst monitoring the supply and you will tell immediately if the short is still available. Do not re-connect and then switch on as this will, unfortunately blow the power supply again.

MICROPHONIC FM TUNERS (ALL MODELS).

Efficient earthing of these tuners is essential and should therefore be checked.

Should the set be generally unstable on FM, re-adjusting the potentiometer, 110, on the circuit diagram will sometimes effect a cure.

NOISY SWITCHES.

A certain number of 900 and 1200 Chassis were fitted with switches in which the plating was insufficient. A modified switch unit can be obtained from our Stores on an advance replacement basis. The switch Unit is very simple to replace, only being held in by four screws.

STEREOMASTER 610 CHASSIS.

This an early version of the 900, where facilities for the de-coder are not fitted. A modification sheet is available on request which will enable you to wire in the de-coder for stereo broadcasts. We would stress that this modification is not as complicated as it might first appear and we would urge Dealers to attempt to carry out this modification and should the re-alignment of the whole set be necessary, then under special circumstances, we would be prepared to carry out this re-alignment in the Work Shops.

Cont'd/3.....

Cont'd/2.....

STEREOMASTER 610 CHASSIS. Cont'd.

It is becoming exceedingly obvious that batteries are being left in Radios when these are returned to us for repair. These Radios are accidentally being left on during transit. Subsequently, when the set is finally un-packed, the batteries have leaked and severe damage is done to the printed circuit board, battery box, etc. We would therefore urge you to make sure that batteries are removed before returning the Radio to us for repair.

611 FM.

Duplex drive troubles - cure as for 900 Chassis.

In certain models, it has been noticed that the 3rd programme reception is poor; this is due to the close proximity of the loud-speaker magnet to the oscillator coil and a replacement oscillator coil will usually cure this problem. The IF's of this receiver should be re-aligned as in the 900 Chassis.

NO AM.

A common fault is short circuit tuning gang. When this is not effective then the oscillator coupling capacitor is known to go short circuit.

POOR QUALITY A.M. (OVERLOADING).

A diode, OA79 or equivalent, between point 15 (+ end) and point 9 of diagram (see lay-out) will improve this condition.

In types 611 F.M.E. slightly more complex re-wiring, using same diode, is necessary.

LF INSTABILITY, WHEN THE BASE CONTROL IS USED IN ITS' MAXIMUM POSITION.

We suggest that C.141 on the AF Board is reduced to a lower value, this value to be selected by trial and error.

BEOMASTER 1000.

MAINS ON/OFF SWITCH REFUSING TO LOCK IN THE 'ON' POSITION.

This can usually be cured by re-positioning the switch bank by loosening the fixing screws underneath the chassis and sliding the switches towards the front of the set.

2 AMP FUSES IN THE EMMITERS OF THE OUTPUT TRANSISTORS.

These have a habit of blowing, should the owner of the receiver inadvertantly turn the volume control to maximum very rapidly. These fuses should be replaced with a delayed-action type and furthermore, customers should be advised to refrain from this practice.

Cont'd/4.....

A/S BANG & OLUFSEN PRODUKTIONSSELSKAB LEVERANDØR TIL DET KGL. DANSKE HOF

B&O SERVICE INFORMATION

Cont'd/3.....

STEREO DE-CODER INDICATOR LAMP.

It has been reported that in a number of cases, that although stereo broadcasts are being received, the green indicator lamp is not operating. This is really due to the incorrect setting of potentiometer 6V in the circuit diagram and should be carefully adjusted so that the light will come on, but be careful to avoid over-adjustment; otherwise, large bursts of interference will tend to make this lamp operate.

In order to use a BM5 microphone with this amplifier, it is necessary to change the gramophone pre-amplifier, but it is pointed out that a special microphone lead will also be necessary, its' part number being 961-L25, bearing in mind that you are actually connecting into the gramophone socket.

BEOLIT 500.

Failure of buttons to lock in position.

The cure is to loosen the adjusting nut, number 0145033 a few turns; this is mounted on the shaft number 285-0000. In certain cases, re-positioning the front panel will alleviate this trouble.

BECCORD 2000K.

FAILURE OF MOTOR AFTER SHORT RUNNING TIME.

This can be traced to the micro switch which changes the motor voltage from 35v. approximately to 42v. approximately when the machine is switched from normal running to fast forward, or re-wind positions. This switch is screwed to the chassis and in a number of cases has become loose due to vibration and is therefore in no contact with the operating lever. In a small number of cases, the micro switch itself has been found to be open circuit. It is essential when replacing the motor in these machines that the action of this micro switch is checked. Otherwise, the new motor will subsequently burn out.

There are a number of machines being used with inferior quality recording tapes, which leave heavy deposits on the heads. Owners of machines should be advised in their own interest to use tapes of similar quality to that supplied, i.e. either Ampex or Scotch. Frequent de-magnetising of heads is also advised.

The electronics of the 2000 Tape Recorder are similar to those of the mains radio and the repair carried out to the power supply should be the same as that for the 900.

Cont'd/5.....

Cont'd/4.....

BEOCORD 1500.

In order that before and after monitoring, facilities may be utilised, with this machine, it is necessary to use a special supply recording lead, type 915H19. When recording from a B & O Radio (any model) all that is necessary is that the top button is de-pressed and either the FM 'gram or AM button, whichever source you are recording from. These two buttons must be pressed at the same time. It will then be possible to record from say the 900 Chassis and at the same time, play back the recording through the output stages of this Radio.

BEOGRAM 1000 TURNTABLES.

Four speed motors for this turntable are no longer available, although three speed motors are. When ordering replacement motors, please ensure that you order the speed change knob as well.

MICRO LIFTS.

We would point out that on no occasions should any attempt be made to oil these. Should they fail to operate the only course of action is to replace the mechanism immediately in the rear of the pick-up arm. Any areas where it is known that the mains voltage is in excess of 240v., it is recommended that a 350v. 5w. Radiospares resistor is fitted in series with the mains supply.

REPLACEMENT MOTORS.

When replacing motors in these playing Decks, it is essential to ensure that the three nylon bushes are mounted correctly and it should be observed that the thick end of the collar should be mounted nearest the metal panel. When finally mounted, this motor should fly free from these bushes as they are primarily intended to limit the vertical movement of the motor and should not carry any weight, this being carried by the springs.

If a GF2 pre-amp is fitted (identified by a large 12 mfd. 25v.w. Capacitor) a shorting link between pins 2 and 5 on the socket should be fitted. For further reference turn to page 4 of the Service Manual.

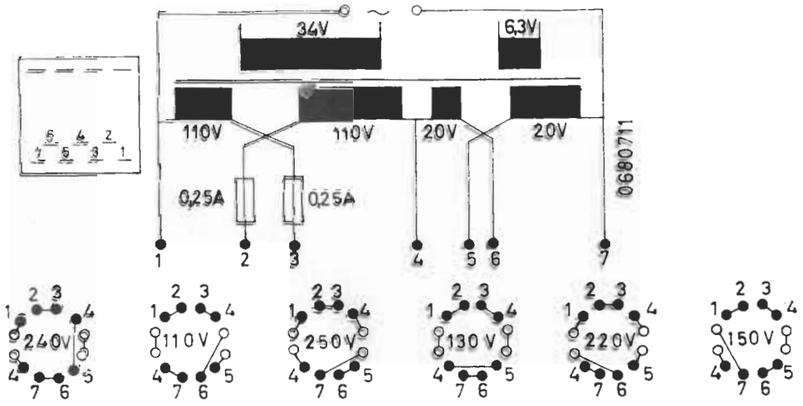
When fitting a GF3, which is the latest type pre-amp, this link should be removed.

****

Ryland Huntley
15 OLD BOND STREET, BATH. Tel. 4332
RADIO & TELEVISION

Supplement to Service Manual for BEOMASTER 900 K, BEOMASTER 900 M, and BEOMASTER 900 RG.

Diagram of voltage-switching circuit in types 2202, 2204, 2206, 2208, and 2212.



Parts List

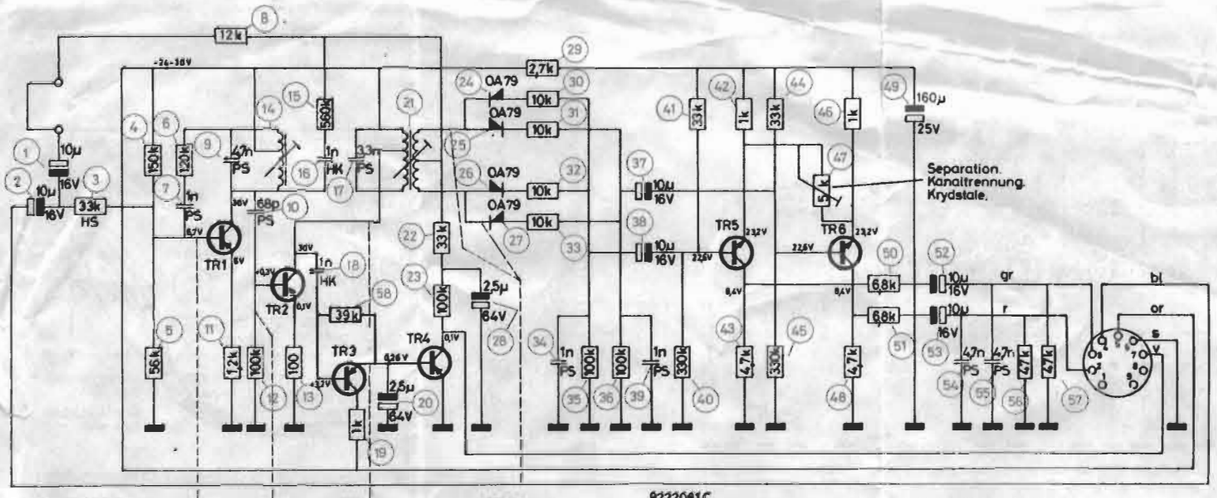
Mains transformer	ST 3528/2
Switch	854 F 748
Fuses (two)	0,25 A IEC 127

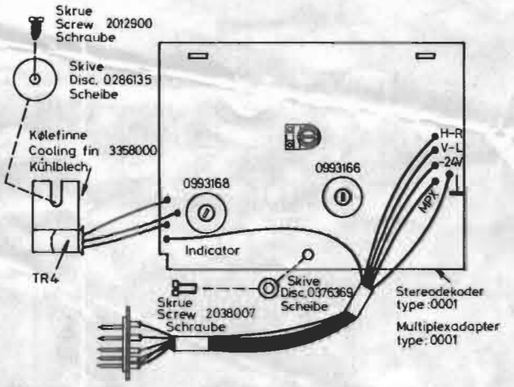
Other parts as in BEOMASTER 900 K and BEOMASTER 900 M.

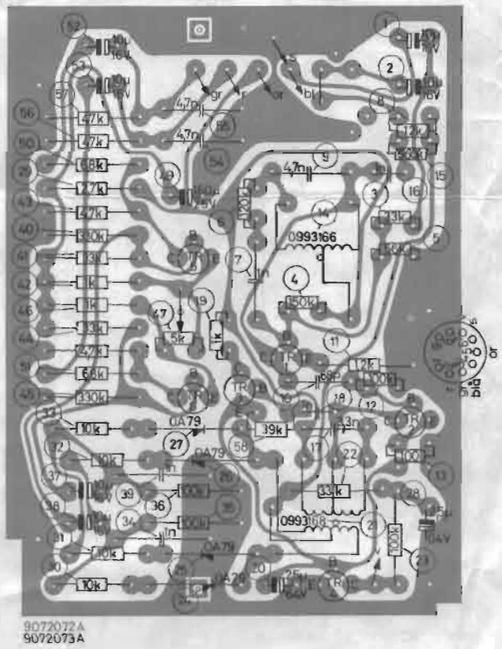
Parts List for BEOMASTER 900 RG
Type 2212

Loudspeakers (two)	28/17 TV 2 × D 35-40
Shock absorber, left side	760 C 450
- - right -	760 C 449

Other parts as in BEOMASTER 900 K and BEOMASTER 900 M.







9072072A
9072073A

19kHz 19kHz 38kHz 38kHz

026V 35V 15V 58V

9222061C
9222062A

Index nr					
8320059				AC 153	
8320097	BC 107 B	BC 167 B BC 182B-L	BC 147 B		
8320165	BC 177A BC 261A	BC 212A-L BC 257A	BC 157A	BC 153 BC 154	MPS 6517
8320202	BC 177 A BC 261 A	BC 212 A-L BC 257A	BC 157 A	BC 154	MPS 6518

TR1 8320202
TR2 8320165
TR3 8320165
TR4 8320059
TR5 8320097
TR6 8320097

gr : grøn - green - grün
r : rød - red - rot
bl : blå - blue - blau
or : orange - orange - orange
s : sort - black - schwarz
v : violet - violet - violett

Voltages without polarity indicated are negativ with respect to chassis.
Spannungen ohne Polaritat angegeben sind Negativ im Verhältnis zu Masse.
Spændinger uden polaritet angivelse er negative i forhold til stel.

The right to alteration of the contents reserved.
Technische Änderungen vorbehalten.
Ret til ændringer forbeholdes

Modbetoningsproppen (0994027) i decoderfatningen (ved siden af stereoindicatorlampen) fjernes.
Decoderens ledningsbundt med stikprop trækkes under skinnen for fastspænding af PW pladerne og stikket sættes i fatningen. Samtidig med, at man sætter decoderen på plads, trækkes TR 4 med kølefinne ned og ud gennem chassiset (over indvendig HT stikdåse) og kølefinnen skrues fast udvendig på chassiset med selvskærende skrue (2012900) og skive (0286135).
Decoderen skrues fast på skinnen med skrue (2038007) og fiberskive (0376369) og fastloddes på vinklens to tappe; vinkel (0760472) og 1 skrue (2038007) anvendes ikke.
Decoderen er forjusteret og afprøvet under fabrikationen. For at opnå den bedst mulige kanalseparation må det anbefales at foretage en finjustering når decoderen er monteret i modtageren. Justeringen foretages med en stereogenerator (evt. FM stereoudsendelse med testtoner) og der indstilles til modulation i den ene kanal. Der lyttes eller måles output fra den anden umodulerede kanal og kernen i 19 KHz spolen (14) justeres til minimum output og limes.
Eventuel justering af de øvrige kredse samt modtagerens MF og detektor foretages som omtalt i serviceanvisningen.

Remove the de-emphasis plug (0994027) from the decoder socket (adjacent to the stereo indicator lamp).
Pass the plug-terminated wiring harness from the decoder, under the PW board mounting strip and insert the plug in the decoder-socket. While mounting the decoder in position, pass the cooling fin equipped TR 4 down and out through the chassis (above internal speaker socket) and screw it into place on the out side of the chassis using a selftapping screw (2012900) and washer (2086135).
Screw the decoder into place on the mounting strip using screw (2038007) and fiber washer (0376369), and solder it to the two studs on the bracket. Omit bracket (076472) and 1 screw 2038007.
This stereo decoder has been pre-adjusted and tested during manufacturing. To secure optimum channel separation, it is recommended to fine adjust when the decoder has been mounted in the receiver. The adjustment is undertaken by a stereo generator (FM stereobroadcast by test tones), and the one channel is set to modulation. The output from the other, unmodulated channel is estimated or measured and the iron core in the 19 KHz coil (14) is set to minimum output and sealed.
Adjustment of the other circuits and the receiver's IF and detector should be made as mentioned in the service manual.

Stereodekoder type 0001
BEOMASTER 900